



## COLOR TELEVISION

Chassis : KS9C(N)MI  
Model : CL21M40MQGXXAO

# ***SERVICE*** *Manual*

### COLOR TELEVISION

### FEATURES

- Turbo Sound
- Sound Equalizer
- New Structure Design



CL-21M40MQ



This Service Manual is a property of Samsung Electronics Co.,Ltd.  
Any unauthorized use of Manual can be punished under applicable  
International and/or domestic law.

© Samsung Electronics Co., Ltd. **Sep. 2006**  
Printed in Korea  
**AA82-03964A**

---

## Table of Contents

---

### Chapter 1 Precaution

■ 1-1 Safety Precautions .....	1-1
■ 1-2 Servicing Precautions .....	1-3
■ 1-3 Static Electricity Precautions .....	1-4
■ 1-4 Installation Precautions .....	1-5

### Chapter 2 Product Specification

■ 2-1 Product Features .....	2-1
■ 2-2 Key Features .....	2-2
■ 2-3 Specifications Analysis .....	2-3
■ 2-4 Accessories .....	2-4

### Chapter 3 Alignment & Adjustment

■ 3-1 Service Instruction .....	3-1
■ 3-2 How to Access Service Mode .....	3-2
■ 3-3 Factory Data .....	3-3
■ 3-4 Service Adjustment .....	3-6
■ 3-5 Replacements & Calibration .....	3-8

### Chapter 4 Exploded View & Part List

■ 4-1 CL21M40MQGXXAO .....	4-1
----------------------------	-----

### Chapter 5 Electrical Part List

■ 5-1 CL21M40MQGXXAO .....	5-1
----------------------------	-----

### Chapter 6 Troubleshooting

■ 6-1 Checkpoints by Error Mode .....	6-1
■ 6-2 Troubleshooting Procedures by Error Modes .....	6-2
■ 6-3 Troubleshooting Procedures by ASS'Y .....	6-3
■ 6-4 Troubleshooting by Blocks .....	6-5

### Chapter 7 Block Diagram

■ 7-1 Overall Block Diagram .....	7-1
■ 7-2 Partial Block Diagram .....	7-2

### Chapter 8 Wiring Diagram

■ 8-1 Overall Wiring .....	8-1
■ 8-2 Pin Connection .....	8-2

**Chapter 9 PCB Diagram**

■ 9-1 Main Board .....	9-1
■ 9-2 CRT Board .....	9-3

**Chapter 10 Schematic Diagram**

■ 10-1 Power .....	10-1
■ 10-2 Micom .....	10-2
■ 10-3 Audio .....	10-3
■ 10-4 Side A/V & CRT Board .....	10-4

## 1. Precaution

To avoid possible damages or electric shocks or exposure to radiation, follow the instructions below with regard to safety, installation, service and ESD.

### 1-1 Safety Precautions

1. Make sure all protective devices are properly installed including non-metallic handles and compartment covers when installing or re-installing the chassis or chassis assemblies.
2. Make sure that no gaps exist between the cabinets for children to insert their fingers in to prevent children from receiving electric shocks. Gaps mentioned above include ventilation holes of a too great magnitude between the vacuum tube and the cabinet mask, and the improper installation of the rear cabinet.

Errors may occur when the resistance is below  $1.0\text{ M}\Omega$  or over  $5.2\text{ M}\Omega$ .

In these cases, make sure that the device is repaired before sending it back to the customer.

3. Check for Electricity Leakage (Figure 1-1)  
Warning: Do not use an insulated transformer for checking the leakage. Use only those current leakage testers or mirroring systems that comply with ANSIC 101.1 and the Underwriter Laboratory's specifications (UL1410, 59.7).

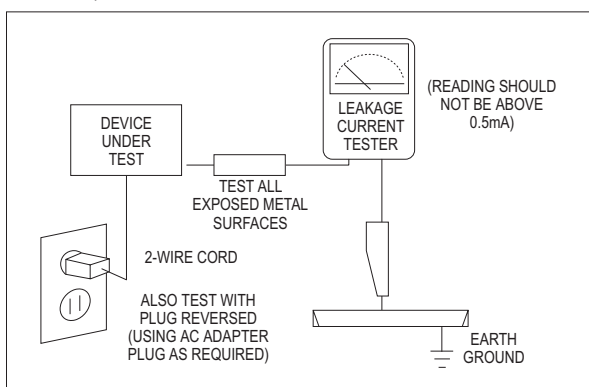


Fig. 1-1 AC Leakage Test

4. A high voltage is maintained within the specified limits using safety parts, calibration and tolerances. When voltage exceeds the specified limits, check each special part.
5. Warning for Engineering Changes:  
Never make any changes or additions to the circuit design or the internal part for this product.  
Ex: Do not add any audio or video accessory connectors. This might cause physical damage.  
Furthermore, any changes or additions to the original design/engineering will invalidate the warranty.
6. Warning - Hot Chassis:  
Some TV chassis are directly connected to one end of the AC power cord for electrical reasons.  
Without insulated transformers, the product can only be repaired safely when the chassis is connected to the earthed end of the AC power source.  
  
To make sure the AC power cord is properly connected, follow the instructions below. Use the voltmeter to measure the voltage between the chassis and the earthed ground. If the measurement is over 1.0V, unplug the AC power cord and change the polarity before re-inserting it. Measure the voltage between the chassis and the ground again.
7. Some TV chassis are shipped with an additional secondary grounding system. The secondary system is adjacent to the AC power line. These two grounding systems are separated in the circuit using an unbreakable/unchangeable insulation material.
8. When any parts, material or wiring appear overheated or damaged, replace them with new regular ones immediately. When any damage or overheating is detected, correct this immediately and make a regular check of possible errors.
9. Check for the original shape of the lead, especially that of the antenna wiring, any sharp edges, the AC power and the high voltage power. Carefully check if the wiring is too tight, incorrectly placed or loose. Never change the space between the part and the printed circuit board. Check the AC power cord for possible damages. Keep the part or the lead away from any heat-emitting materials.

## Precaution

### 10. Safety Indication:

Some electrical circuits or device related materials require special attention to their safety features, which cannot be viewed by the naked eye. If an original part is replaced with another irregular one, the safety or protective features will be lost even if the new one has a higher voltage or more watts.

Critical safety parts should be bracketed with ( ⚠ ⚠ ).  
Use only regular parts for replacements (in particular, flame resistance and dielectric strength specifications).  
Irregular parts or materials may cause electric shock or fire.

## 1-2 Servicing Precautions

---

Warning 1: First carefully read the "Safety Instruction" in this service manual.

When there is a conflict between the service and the safety instructions, follow the safety instruction at all times.

Warning 2: Any electrolytic capacitor with the wrong polarity will explode.

1. The service instructions are printed on the cabinet, and should be followed by any service personnel.
2. Make sure to unplug the AC power cord from the power source before starting any repairs.
  - (a) Remove or re-install parts or assemblies.
  - (b) Disconnect the electric plug or connector, if any.
  - (c) Connect the test part in parallel with the electrolytic capacitor.
3. Some parts are placed at a higher position than the printed board. Insulated tubes or tapes are used for this purpose. The internal wiring is clamped using buckles to avoid contact with heat emitting parts. These parts are installed back to their original position.
4. After the repair, make sure to check if the screws, parts or cables are properly installed. Make sure no damage is caused to the repaired part and its surroundings.
5. Check for insulation between the blade of the AC plug and that of any conductive materials (i.e. the metal panel, input terminal, earphone jack, etc).
6. Insulation Check Process: Unplug the power cord from the AC source and turn the switch on. Connect the insulating resistance meter (500v) to the AC plug blade.

The insulating resistance between the blade of the AC plug and that of the conductive material should be more than 1 M $\Omega$ .
7. Any B+ interlock should not be damaged.

If the metal heat sink is not properly installed, no connection to the AC power should be made.
8. Make sure the grounding lead of the tester is connected to the chassis ground before connecting to the positive lead. The ground lead of the tester should be removed last.
9. Beware of risks of any current leakage coming into contact with the high-capacity capacitor.
10. The sharp edges of the metal material may cause physical damage, so ensure wearing protective gloves during the repair.

### 1-3 Static Electricity Precautions

---

1. Some semi-conductive ("solid state") devices are vulnerable to static electricity. These devices are known as ESD. ESD includes the integrated circuit and the field effect transistor. To avoid any materials damage from electrostatic shock, follow the instructions described below.
2. Remove any static electricity from your body by connecting the earth ground before handling any semi-conductive parts or ass'ys. Alternatively, wear a dischargeable wrist-belt.  
(Make sure to remove any static electricity before connecting the power source - this is a safety instruction for avoiding electric shock)
3. Remove the ESD ass'y and place it on a conductive surface such as aluminum foil to prevent accumulating static electricity.
4. Do not use any Freon-based chemicals.  
Such chemicals will generate static electricity that causes damage to the ESD.
5. Use only grounded-tip irons for soldering purposes.
6. Use only anti-static solder removal devices.  
Most solder removal devices do not support an anti-static feature. A solder removal device without an anti-static feature can store enough static electricity to cause damage to the ESD.
7. Do not remove the ESD from the protective box until the replacement is ready. Most ESD replacements are covered with lead, which will cause a short to the entire unit due to the conductive foam, aluminum foil or other conductive materials.
8. Remove the protective material from the ESD replacement lead immediately after connecting it to the chassis or circuit ass'y.
9. Take extreme caution in handling any uncovered ESD replacements. Actions such as brushing clothes or lifting your leg from the carpet floor can generate enough static electricity to damage the ESD.

#### CAUTION

These servicing instructions are for use by qualified service personnel only.  
To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

## 1-4 Installation Precautions

---

1. For safety reasons, more than two people are required for carrying the product.
2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.
3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal temperature may cause fire.
4. Bend the external antenna cable when connecting it to the product. This is a measure to protect it from being exposed to moisture. Otherwise, it may cause a fire or electric shock.
5. Make sure to turn the power off and unplug the power cord from the outlet before repositioning the product. Also check the antenna cable or the external connectors if they are fully unplugged. Damage to the cord may cause fire or electric shock.
6. Keep the antenna far away from any high-voltage cables and install it firmly. Contact with the high-voltage cable or the antenna falling over may cause fire or electric shock.
7. Check the basics of the screen test.
  - Image position/size, Tilt adjustment

# MEMO

## 2. Product Specification

### 2-1 Product Features

Block	Specification	Core Parts	Remark
CRT	- 21" AK CRT	Normal CRT	
RF Part	- Analog Tuner	TUNER-F/S;TDQ-6F/13F2S,NTSC,	
Power	- Input voltage:AC110V	KA5Q0765RTH-YDTU	
Video	- NTSC	TDA9377PS/N3/A	
Audio	- Output:10W x 2 - Function:Melody on /off,Turbo Sound	TDA7297SA	
Cabinet	- Front and back cabinet	K40 design applied	Material: HIPS
Other	- Development Level : Level 4 - ProtoType Model: CL21K40MQGXRCL		

#### ■ Core Parts Functions

- TDA9377PS/N3/A: CVBS, Video and Sound Signal Processing , Controls the operation of the overall main board.
- TDA7297SA : Sound Signal Amplify
- KA5Q0765RTH-YDTU : Power Supply TR
- TUNER-F/S;TDQ-6F/13F2S(tuner) : RF signal processing , Output IF signal

## 2-2 Key Features

---

Model	CL-21M40MQ
Voltage	AC110V
Frequency of Operation	60HZ
Dimensions (mm/inches)	622 x489.5x472 24.48x19.25x18.58
Weight (Kg/ lbs)	25.8/56.6

■ H/W Configuration

- 21 AK CRT adopted

■ Picture

- System : SECAM/NTSC4.43/NTSC3.58
- Digital Noise Reduction

■ Sound

- Sound System : Line Stereo
- Output : 10W+10W
- AVL, Melody, Auto Stereo, Auto Mute
- Turbo Sound



■ Feature

- Language : Multi
- Picture Size : Zoom/3:4
- Auto Program
- Sleep Timer : 180 Min
- Clock
- Child Lock

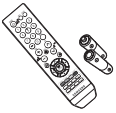






■ Power Consumption

- Max power:110W

## 2-3 Specifications Analysis

Model		21M16	CL-21M40MQ
Chassis		KS9A	KS9C
Design			
Picture	Screen Size	21"	21"
	Pure Flat CRT	○	○
	DNle Jr.	X	X
	Comb Filter	-	-
	Velocity Modulation	-	-
	Video Noise Reduction	X	○
	Auto Kinetic Bias	○	○
	Color Tone Control	○	○
	Tilt Control	-	-
	Picture Mode	4 Mode	4 Mode
Sound	MTS/SAP		○
	Output Power(RMS)	7Wx2	10W x 2
	Tweeter	-	-
	BBE	-	-
	Surround	X	X
	Sound Mode	5 Mode	5 Mode
	Graphic Equalizer	-	-
	Sub-Woofer Speaker	-	-
	Auto Volume Leveler	○	○
	Melody On/Off	○	○
Convenience	Turbo Sound	○	○
	PIP	X	X
	Plug & Play	○	○
	Zoom Mode	○	○
	OSD Demo	X	X
	OSD Language	Multi	Multi
	Previous Channel	○	○
	Closed Caption	○	○
	On/Off Timer	○	○
	Sleep Timer	○	○
	Auto Power Off	○	○
	Clock	○	○
	Channel Scan	-	-
	Self-diagnostic System	X	X
	Remote Control	TM75	TM75
	Remote Surf	X	X
	Channel Labelling	X	X
	Blue Screen	○	○
	Rack	-	-
Voltage	Voltage	100~240	100~240
Power Consumption	Stand-by	under 9 W	under 6W
Jacks	RF Input	R1	R1
	A/V Input	S1/R1	S1/R2
	Monitor Output	R1	R1
	S-VHS Input	-	-
	Headphone	S1	S1
	DVD Input	-	○
	PC Input(VGA)	-	-

## 2-4 Accessories

Accessories	Item	Item code	Remark
Supplied Accessories		Remote Control Batteries	AA59-00385A 4301-000121
		Owner's Instructions Safety Guide Manual	AA68-03810A AA68-03242F
		Warranty Card	AA68-03727A
Accessories that can be purchased additionally		Video Cable / Audio Cable	-
		Antenna Cable	-
		Component Cable	-
		Optical Cable	-
Internal shopping mall			

---

## 3. Alignment & Adjustment

---

### 3-1 Service Instruction

---

#### 1. General Adjustment :

In general, a color TV can provide ideal visual quality by adjusting the basic settings such as the vertical size, horizontal size, focus, etc.

Display a black and white picture on the screen to check if the picture is clearly displayed.

If there are some 'spotted' points on the screen when displaying a black and white picture, degauss the screen using the degauss coil. If the spotted points remain, re-adjust the purity and the convergence. This completes the basic performance examination.

Notice.

- These adjustments and the check list are only applied to KS9C chassis-applied models.
- use 110v for the measurement set. It is recommended using an insulation transformer when supplying power to the set so as to prevent shock to the set or to yourself.
- These adjustment specifications have been created on the basis of the domestic KS9C chassis-applied remote control model. Some of the contents may be changed subject to the sales location and the product specifications.

#### 2. When replacing the Main Board :

Focus adjustment, screen voltage setting and W/B adjustment are all required.

#### 3. When replacing the CRT Ass'y : No adjustments required.

## 3-2 How to Access Service Mode

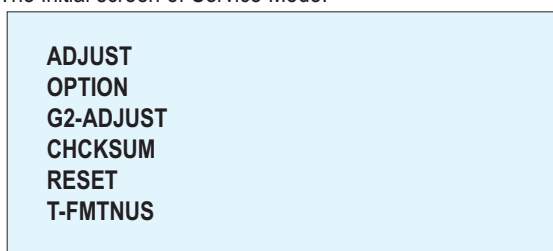
---

1. To enter Service Mode, press the keys on the remote control according to the following sequence. (in Stand-by status)

Info → Menu → MUTE → power On

※ When failing to enter Service Mode, repeat the procedure above.

2. The initial screen of Service Mode.



3. Functions of the Keys within Service Mode

MENU	Show all menus
▲ / ▼	Move the cursor to select an item.
◀ / ▶	Adjust the selected configuration value

### 3-3 Factory Data

★ The underlined are items applied during the service adjustment. None of the others should be adjusted.

#### 1.T-FMTNUS

No	Item	Adjust/Fix	Initial	Remark
1	<u>HS</u>	Adjust	37	
2	<u>VA</u>	Adjust	34	
3	<u>VSL</u>	Adjust	30	
4	VS	FIX	31	
5	<u>AGC</u>	Adjust	33	
6	CDL	FIX	9	
7	<u>SCT</u>	Adjust	10	
8	<u>SBT</u>	Adjust	7	
9	<u>BLR</u>	Adjust	28	
10	<u>BLB</u>	Adjust	43	
11	<u>RG</u>	Adjust	30	
12	GG	FIX	32	
13	<u>BG</u>	Adjust	46	
14	SC	FIX	29	
15	STT	FIX	29	
16	AKB	FIX	0	
17	NDL	FIX	1	
18	NSR	FIX	5	
19	VOL	FIX	10	
20	MVOL	FIX	7	
21	RPO0	FIX	1	
22	RPO1	FIX	1	
23	CAP	FIX	12	
24	FMWS	FIX	0	
25	AGCS	FIX	1	
26	OMD	FIX	15	
27	SCL	FIX	3	
28	PWL	FIX	13	
29	MUS	FIX	1	
30	SCBT	FIX	40	
31	SSP	FIX	5	
32	DNSR	FIX	17	
33	DSBT	FIX	0	
34	DCDL	FIX	6	
35	DBLR	FIX	32	
36	DBLB	FIX	32	
37	DSK	FIX	0	

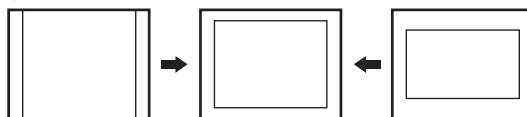
## 2.Option

No	Item	Initial	21"FLAT	Remark
1	Video Mute	Off	Off	Video Mute time between the Channel changes
2	Audio	STEREO	STEREO	Audio MONO/STEREO Option
3	2ND SIF	EXTERNAL	EXYERNAL	SIF Option
4	Auto Power	Off	Off	Turns on automatically when the Master Power is turned ON
5	Audio Mute	On	On	Mutes the Audio when the there is no source signal
6	Start Language	English	English	Preset OSD (On-Screen Display) laguage at time of purchase
7	Hotel Mode	Off	Off	
8	Blue Screen	On	On	Blue Screen when there is no source signal
9	V-Chip	Off	Off	
10	AV Option	AV1/2/DVD/SV	AV1/2/DVD	Back Jack Option
11	AFN	Off	Off	

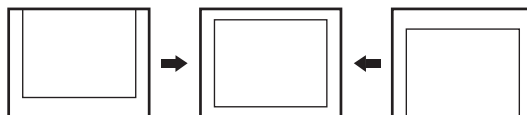
## 3.White Balance

No	Item	21"FLAT	Remark
1	Hight Light	275/265/45FL	
2	Low Light	275/265/1.5FL	

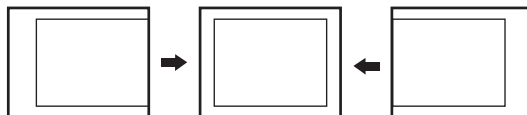
0 V-AMP



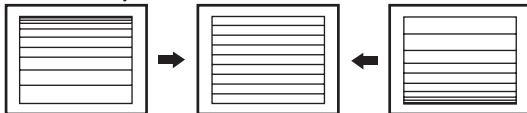
1 V-Shift



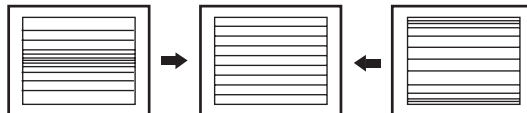
2 H-Shift



3 V-Linearity



4 V SC

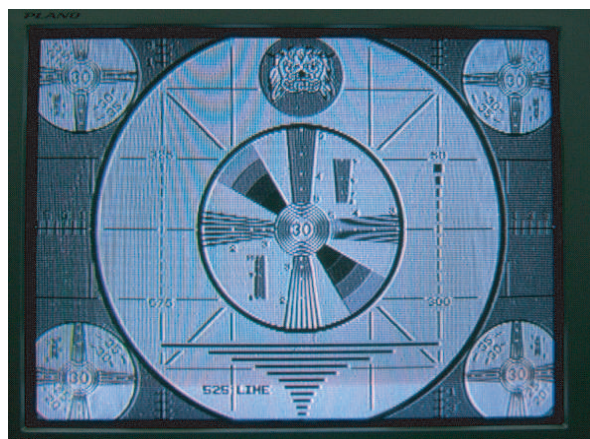


## 3-4 Service Adjustment

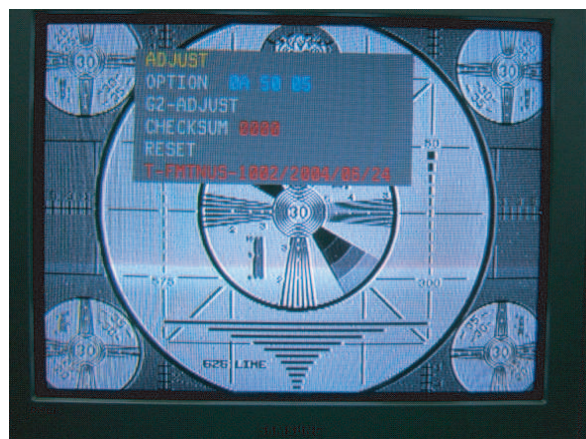
### 3-4-1 Adjusting the Picture Size

■ Since the KS9C chassis has the deflection settings data within the Factory Data, the picture size has to be adjusted when replacing Main Board, according to the following procedures.

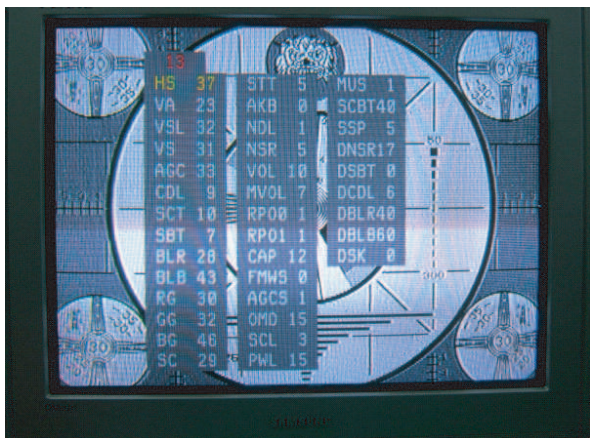
① Display the Lion pattern.



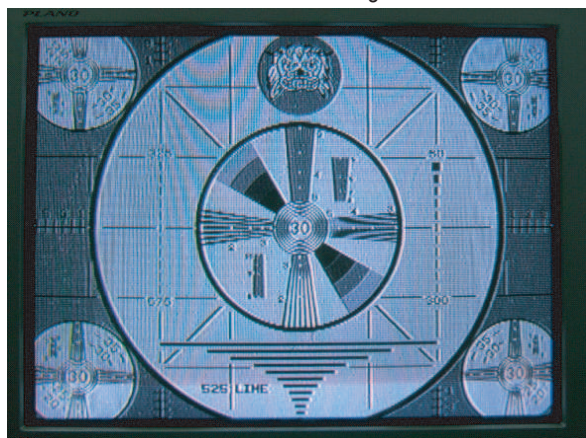
② Press "Power Off → MUTE → 1 → 8 → 2 → Power On " using the remote control and enter Factory Mode.



③ Enter Deflection Mode.

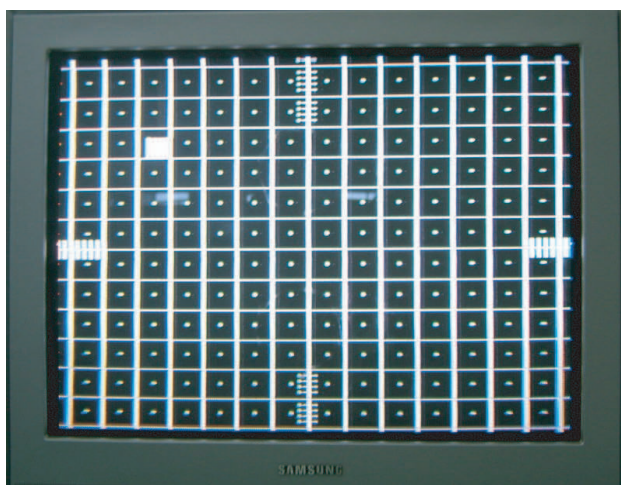


④ Adjust the VA, VS, VSL and HS items so that the width becomes 5 and the height becomes 4.



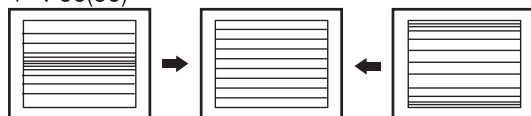
### 3-4-2 Adjusting the Picture Straight Lines

- ① Display the Cross Hatch pattern.

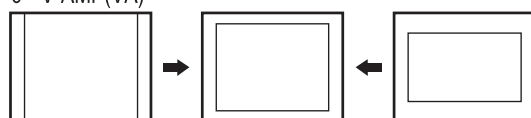


- ② Adjust settings other than VA, VH and HS so that straight lines are displayed without curves.
- ③ Adjust the V-Linearity and V-SC settings so that the intervals of the horizontal lines become uniform.

4 V SC(SC)



0 V-AMP(VA)



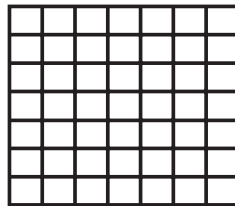
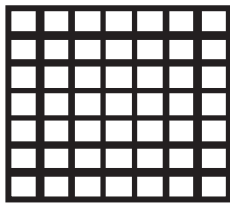
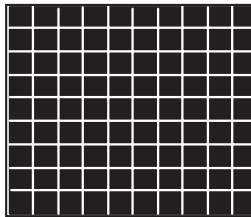
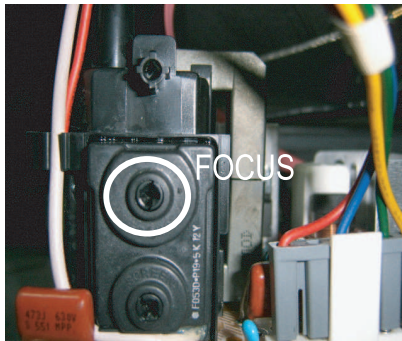
- ④ When the adjustments are complete, display the Lion pattern and check that the picture size has not been changed. If there is no change, finish the adjustments.

## 3-5 Replacements & Calibration

---

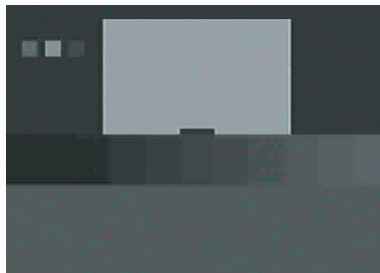
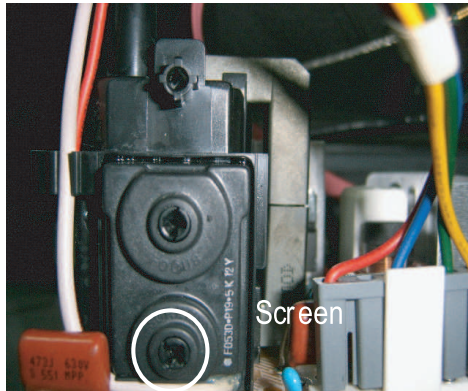
### 3-5-1 Adjusting the Focus

1. Display the CROSS Hatch pattern.
2. Turn the Focus clockwise to the optimal position.
3. Slowly turn the Focus clockwise so that the cross line is the most clearly displayed.



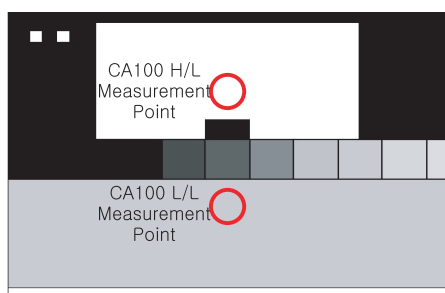
### 3-5-2 Adjusting the Screen Voltage

1. Select "Power Off →MUTE→1→8→2→Power On " to enter Service Mode.
2. Turn to toshiba pattern
3. Use remocon come into " G2 Adjust" mode by hand or automatically.
4. Turn Screen VR of FBT and confirm the characters below changed to GREEN.



### 3-5-3 Adjusting the White Balance

1. Initialize all settings to the values appropriate to the corresponding model.
2. Select "Power Off → Mute →1 →8 →2 →Power On" to enter Service Mode.
3. Initialize all settings to the values appropriate to the corresponding model.
4. Display the Toshiba pattern and adjust the White Balance using CA100 with the coordinates of the corresponding model.



[CA100]

5. Enter Video Adjust1 of Service Mode. Adjust Low/Light.
  - Adjust Sub Bright to set Y.
  - Adjust B Cutoff to set y.
  - Adjust R Cutoff to set x.
6. Enter Video Adjust1 of Service Mode. Adjust High/Light.
  - Adjust Sub Contrast to set Y.
  - Adjust B Drive to set y.
  - Adjust R Drive to set x.
7. Check Low/Light and readjust it if its value has been changed.
8. If you have readjusted Low/Light, readjust High/Light until the two values are identical to the coordinates of the corresponding model.

#### ※ White Balance Standard Data

No	Item	TSE		Required Adjustment
		21"SDI AK		
1	White Balance	High: x : 275 y : 265 Y : 45FL	Low: x : 275 y : 265 Y : 1.5FL	White Balance (Standardization Applied)

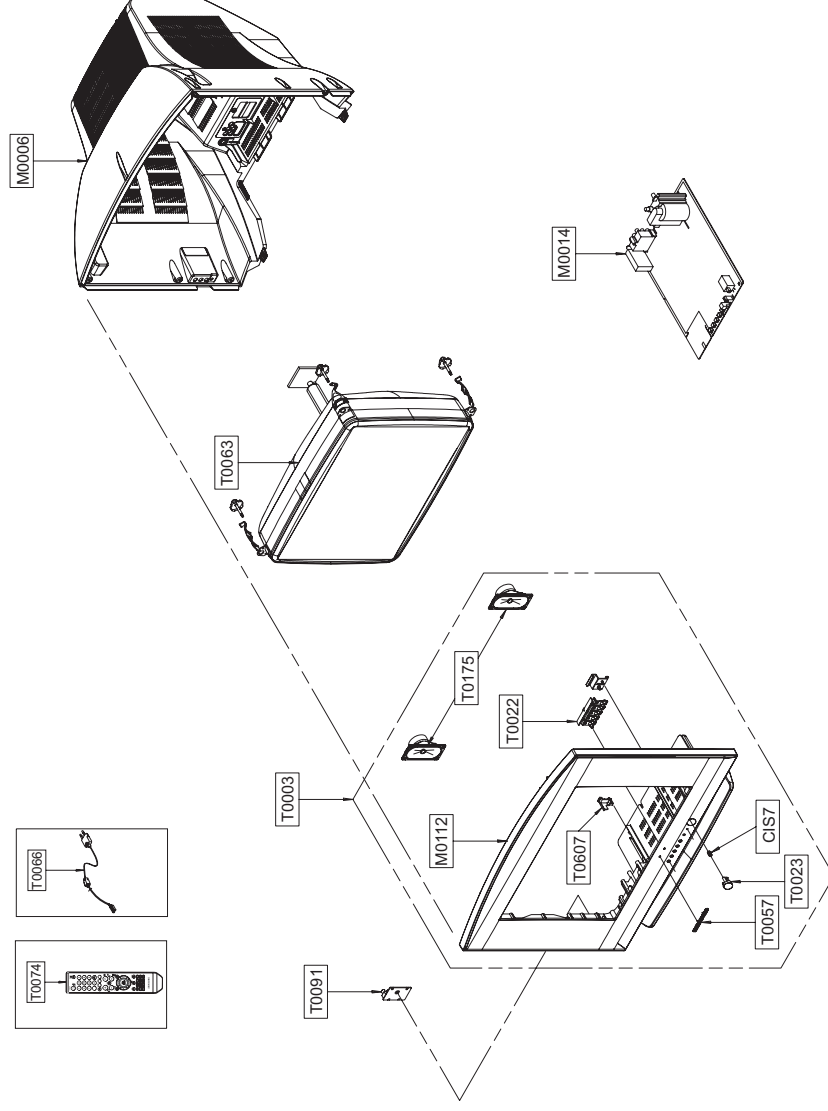
### 3-5-4 Check List for the Screen Voltage and White Balance Adjustment

1. The Screen Voltage and White Balance are connected each other, and both of them have to be configured to the correct values.
2. Adjust the White Balance after the Screen Voltage was adjusted, and check if the Screen Voltage is normal after adjusting the White Balance.
3. If the White Balance is readjusted, check the Screen Voltage again.
4. When the adjustment is finished, check the following checklist.
  - If there is a spot on the screen when turning the TV set off/on, adjust the Screen Voltage again.
  - If there is a ghost line on the screen, adjust the Screen Voltage again.

#### 4. Exploded View & Part List

**4-1 CL21M40MQGXXAO**

You can search for the updated part code through ITSELF web site.  
URL: <http://itself.sec.samsung.co.kr>



Loc No.	Code No.	Description	Specification	Qty	SA/SNA	Remark
C157	A461-60003J	SPRING RTC-RS	-SJS304,-,OD6/N7,OD6,-,-	1	S.N.A	
M006	A463-01507A	COVER-REAR	21M4Q(S)AMEX,HPS,T2.3,HB,K5	1	S.A	
M0014	A494-18031A	ASSY PCB MAIN	CL21M4Q(M)GXGJSU,M1/SC9C	1	S.A	
M0112	A463-01506A	COVER-FRONT	21M4Q(S)AMEX,HPS,T2.5,HB,GR	1	S.N.A	
T0003	A496-04356A	ASSY COVER F-FRONT	21M4Q HIPS,HB,GR503 B	1	S.A	
T0022	A464-04400A	KNOB CONTROL	29M4Q(S)AMEX,ABS,HB,SVM/3012	1	S.N.A	
T0023	A464-04402A	KNOB-POWER	21M4Q(S)AMEX,ABS,HB,SVM/3012	1	S.N.A	
T0057	A464-70123A	BADGE-BRAND	NEW ALL 50 FLAT SILVER,SAMSU	1	S.N.A	
T0063	A403-04040A	CRT COLOR	NEW 10DX9B3X0.0MG,1.75MH,18MH,3.1	1	S.A	
T0066	A495-20103C	ASSY POWER CORD	-CP2/NO(4.0),H/C300,KKP	1	S.A	
T0074	A459-00385A	REMOCON	TIMECPT,M85,39,INTERACE,NTSC,NO	1	S.A	
T0091	A494-18015A	ASSY PCB MISC-SIDE A/V	KS9C,NTSC,RAY	1	S.A	
T0175	A495-00359E	ASSY SPEAKER P	-.8ohm,5W,3001-000274,400	1	S.A	
T0607	A461-40113A	STOPPER-PCB	501H,SPI,-,-HB,NTR,-	1	S.N.A	

## 5. Electrical Part List

### 5-1 CL21M40MQGXXAO

You can search for the updated part code through ITSELF web site.

URL: <http://itself.sec.samsung.co.kr>

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
<b>ASSY CHASSIS</b>						
M0017	AA91-10551A	ASSY CHASSIS	CL21M40MQGXGSU,MI,KS9C	1	S.N.A	
T0091	AA94-16015A	ASSY PCB MISC-SIDE A/V	KS9C,NTSC,RAY	1	S.A	
T0245	0202-001492	SOLDER-WIRE FLUX	HSE-02 LFM48 SR-34 S,-,	0.003	S.N.A	
JA330	3722-001061	JACK-PHONE	1P,3.6PI,AG,BLK,N	1	S.A	
JA333	3722-001164	JACK-PIN	3P,SN,WH:YE,RE,STRAIGHT	1	S.A	
T0245	AA39-20068E	LEAD CONNECTOR-ASSY	,8P,500,YBNH025-08,6	1	S.A	
T0245	AA39-20069C	LEAD CONNECTOR-ASSY	,5P,400,YBNH025-05,6	1	S.A	
T0054	AA97-16802A	ASSY AUTO-SIDE A/V	KS9C,NTSC,RAY	1	S.N.A	
RA01	2001-000028	R-CARBON(S)	100OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
RA02	2001-000028	R-CARBON(S)	100OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
CA01	2202-000127	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,25V,Y5V	1	S.A	
CA02	2202-000127	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,25V,Y5V	1	S.A	
CA03	2401-002009	C-AL	100uF,20%,16V,GP,TP,6.3x7,5	1	S.A	
CA04	2401-002009	C-AL	100uF,20%,16V,GP,TP,6.3x7,5	1	S.A	
LA01	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
LA02	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
PCB	AA41-01178A	PCB SUB	CS21Z30,FR-1,1,A,1.6,245*245*1.6	1	S.N.A	
M0014	AA94-16031A	ASSY PCB MAIN	CL21M40MQGXGSU,MI,KS9C	1	S.A	
C101	2401-002594	C-AL	220uF,20%,16V,GP,TP,8x11.5,5	1	S.A	
C102	2401-003036	C-AL	100uF,20%,16V,GP,TP,5X11mm,5mm	1	S.A	
C103	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C105	2202-000127	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,25V,Y5V	1	S.A	
C109	2301-000016	C-FILM,LEAD-PEF	22nF,5%,100V,TP,7.2x4.5x	1	S.A	
C110	2401-000962	C-AL	22uF,20%,50V,GP,TP,5x11,5	1	S.A	
C111	2202-000127	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,25V,Y5V	1	S.A	
C112	2401-003900	C-AL	0.47UF,20%,50V,HR,TP,5*11,5	1	S.A	
C113	2401-003900	C-AL	0.47UF,20%,50V,HR,TP,5*11,5	1	S.A	
C114	2202-000286	C-CERAMIC,MLC-AXIAL	56pF,5%,50V,SL,TP,1.	1	S.A	
C120	2202-000127	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,25V,Y5V	1	S.A	
C203	2401-000480	C-AL	10uF,20%,50V,GP,TP,5x11,5	1	S.A	
C205	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C207	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C208	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C209	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C210	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C211	2202-000632	C-CERAMIC,MLC-AXIAL	100nF,20%,50V,Z5U,TP	1	S.A	
C213	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C215	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C216	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C217	2301-000004	C-FILM,LEAD-PEF	2.2nF,5%,100V,TP,5.5X10X	1	S.A	
C217A	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C218	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C219	2401-000603	C-AL	1UF,20%,50V,GP,TP,5X11,2	1	S.A	
C220	2401-000480	C-AL	10uF,20%,50V,GP,TP,5x11,5	1	S.A	
C222	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C223	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C224	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C225	2301-001664	C-FILM,LEAD-OTHER	100nF,3%,50V,TP,20x16x	1	S.A	
C227A	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C229	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C230	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C233	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C234	2301-000004	C-FILM,LEAD-PEF	2.2nF,5%,100V,TP,5.5X10X	1	S.A	
C235	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C236	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C237	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C238	2305-000412	C-FILM,LEAD-PEF	470nF,5%,63V,TP,-,5mm	1	S.A	
C239	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C240	2305-000412	C-FILM,LEAD-PEF	470nF,5%,63V,TP,-,5mm	1	S.A	
C241	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C242	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C243	2202-000127	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,25V,Y5V	1	S.A	

## Electrical Part List

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
C244	2201-000573	C-CERAMIC,DISC	0.047NF,5%,50V,C0G,TP,5X3	1	S.A	
C245	2201-000573	C-CERAMIC,DISC	0.047NF,5%,50V,C0G,TP,5X3	1	S.A	
C246	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C247	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C248	2301-000013	C-FILM,LEAD-PEF	4.7nF,5%,100V,TP,10.5x12	1	S.A	
C249	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C301	2305-000285	C-FILM,LEAD-PEF	220NF,5%,100V,TP,10.5X5.	1	S.A	
C302	2201-000259	C-CERAMIC,DISC	0.18NF,10%,500V,Y5P,TP,5.	1	S.A	
C304	2401-001838	C-AL	470uF,20%,25V,WT,TP,10x16,5	1	S.A	
C306	2401-002288	C-AL	470uF,20%,25V,WT,TP,10x20,5	1	S.A	
C307	2401-000365	C-AL	100uF,20%,50V,WT,TP,10x12.5mm,	1	S.A	
C308	2401-000365	C-AL	100uF,20%,50V,WT,TP,10x12.5mm,	1	S.A	
C309	2301-000253	C-FILM,LEAD-PEF	39NF,5%,100V,TP,7.5X4.5X	1	S.A	
C312	2305-000149	C-FILM,LEAD-PEF	100nF,5%,100V,TP,12x12.5	1	S.A	
C403	2401-000625	C-AL	2.2uF,20%,160V,GP,TP,6.3x11,5	1	S.A	
C406	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C407	2301-000148	C-FILM,LEAD-PEF	10nF,5%,100V,TP,7x3.2x7m	1	S.A	
C408	2201-000599	C-CERAMIC,DISC	0.56NF,10%,500V,Y5P,TP,5.	1	S.A	
C420	2301-001065	C-FILM,LEAD-PPF	47nF,5%,630V,TP,19x15.5x	1	S.A	
C502	2301-000213	C-FILM,LEAD-PEF	220nF,5%,250V,TP,21.5x11	1	S.A	
C503	2201-000723	C-CERAMIC,DISC	4.7NF,20%,3KV,Y5U,TP,16X5	1	S.A	
C504	2401-001232	C-AL	4.7uF,20%,250V,GP,TP,10x12.5,5	1	S.A	
C505	2202-000825	C-CERAMIC,MLC-AXIAL	680pF,10%,50V,Y5P,TP	1	S.A	
C506	2401-000430	C-AL	10uF,20%,250V,GP,TP,10x16mm,5m	1	S.A	
C601	2201-000304	C-CERAMIC,DISC	0.0010nF,0.25pF,50V,C0G,-	1	S.A	
C602	2201-000304	C-CERAMIC,DISC	0.0010nF,0.25pF,50V,C0G,-	1	S.A	
C603	2202-000286	C-CERAMIC,MLC-AXIAL	56pF,5%,50V,SL,TP,1.	1	S.A	
C603A	2401-001026	C-AL	3.3UF,20%,50V,GP,TP,5X11,5	1	S.A	
C604	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C605	2201-000017	C-CERAMIC,DISC	1nF,10%,50V,Y5P,-,5x3.5mm	1	S.A	
C606	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C607	2401-000493	C-AL	10uF,20%,50V,LZ,TP,5x11mm,5mm	1	S.A	
C608	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
C609	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
C610	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
C611	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
C612	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C613	2301-000108	C-FILM,LEAD-PEF	1.5nF,5%,50V,TP,6.5x3.0x	1	S.A	
C614	2401-000620	C-AL	2.2uF,10%,50V,GP,TP,5x11,5	1	S.A	
C615	2401-001026	C-AL	3.3UF,20%,50V,GP,TP,5X11,5	1	S.A	
C616A	2401-000493	C-AL	10uF,20%,50V,LZ,TP,5x11mm,5mm	1	S.A	
C617	2401-000493	C-AL	10uF,20%,50V,LZ,TP,5x11mm,5mm	1	S.A	
C618	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C619	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C620	2401-001026	C-AL	3.3UF,20%,50V,GP,TP,5X11,5	1	S.A	
C621	2301-000148	C-FILM,LEAD-PEF	10nF,5%,100V,TP,7x3.2x7m	1	S.A	
C622	2301-000108	C-FILM,LEAD-PEF	1.5nF,5%,50V,TP,6.5x3.0x	1	S.A	
C625	2301-000519	C-FILM,LEAD-PEF	3.3nF,5%,100V,TP,5.8x3x1	1	S.A	
C626	2301-000519	C-FILM,LEAD-PEF	3.3nF,5%,100V,TP,5.8x3x1	1	S.A	
C627	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
C629	2202-000286	C-CERAMIC,MLC-AXIAL	56pF,5%,50V,SL,TP,1.	1	S.A	
C630	2301-000232	C-FILM,LEAD-PEF	3.3nF,5%,50V,TP,8.1x4.5x	1	S.A	
C631	2401-003139	C-AL	1000uF,20%,25V,WT,TP,10*20,5mm	1	S.A	
C632	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C634	2301-000232	C-FILM,LEAD-PEF	3.3nF,5%,50V,TP,8.1x4.5x	1	S.A	
C635	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C636	2401-001914	C-AL	1uF,20%,50V,BP,TP,5x11,5	1	S.A	
C637	2401-001914	C-AL	1uF,20%,50V,BP,TP,5x11,5	1	S.A	
C638	2301-000192	C-FILM,LEAD-PEF	1nF,5%,50V,TP,5.3x10mm,5	1	S.A	
C639	2301-000192	C-FILM,LEAD-PEF	1nF,5%,50V,TP,5.3x10mm,5	1	S.A	
C704	2401-000758	C-AL	0.22UF,20%,50V,GP,TP,5X11,5	1	S.A	
C705	2301-000148	C-FILM,LEAD-PEF	10nF,5%,100V,TP,7x3.2x7m	1	S.A	
C706	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C707	2401-000758	C-AL	0.22UF,20%,50V,GP,TP,5X11,5	1	S.A	
C709	2202-000806	C-CERAMIC,MLC-AXIAL	220pF,10%,50V,Y5P,TP	1	S.A	
C710	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
C801	2401-000534	C-AL	150uF,20%,400V,GP,BK,25x30,10	1	S.A	
C802	2401-000015	C-AL	33uF,20%,50V,WT,-,6.3x11mm,2,5	1	S.A	
C803	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C804	2301-000016	C-FILM,LEAD-PEF	22nF,5%,100V,TP,7.2x4.5x	1	S.A	
C805	2301-000408	C-FILM,LEAD-PEF	2.7nF,5%,50V,TP,5.5x7x3m	1	S.A	
C806	2301-001435	C-FILM,LEAD-PPF	1.5nF,5%,1.2KV,TP,15x8x1	1	S.A	
C810	2301-000016	C-FILM,LEAD-PEF	22nF,5%,100V,TP,7.2x4.5x	1	S.A	
C811	2201-000991	C-CERAMIC,DISC	0.56NF,10%,2KV,Y5P,TP,7.5	1	S.A	
C812	2401-000262	C-AL	100uF,20%,160V,HR,TP,16x25,7.5	1	S.A	
C813	2401-002290	C-AL	47uF,20%,160V,GP,TP,13x20,5	1	S.A	
C814	2201-000599	C-CERAMIC,DISC	0.56NF,10%,500V,Y5P,TP,5.	1	S.A	

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
C815	2401-002458	C-AL	1000uF,20%,35V,GP,TP,16x25,7.5	1	S.A	
C816	2201-000375	C-CERAMIC,DISC	0.22NF,5%,50V,RH,TP,12.5X	1	S.A	
C817	2401-003028	C-AL	100uF,20%,25V,WT,TP,6.3x11,5	1	S.A	
C818	2401-003028	C-AL	100uF,20%,25V,WT,TP,6.3x11,5	1	S.A	
C819	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C820	2401-000480	C-AL	10uF,20%,50V,GP,TP,5x11,5	1	S.A	
C821	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C823	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C824	2401-001998	C-AL	1000uF,20%,25V,GP,TP,10x20,5mm	1	S.A	
C827	2401-000927	C-AL	22uF,20%,250V,GP,TP,13x20,5	1	S.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.1	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.1	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.2	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.1	S.N.A	
CIS3	AA40-00016A	TUNER-F/S	TDQ-6F/13F2S,NTSC,181CH,45.75M	1	S.A	
CN330	3711-002644	HEADER-BOARD TO CABLE	BOX,5P,1R,2.5mm,ST	1	S.A	
CN330	3711-002647	HEADER-BOARD TO CABLE	BOX,8P,1R,2.5mm,ST	1	S.A	
CN330	3711-003043	HEADER-BOARD TO CABLE	BOX,4P,1R,2.5MM,ST	1	S.A	
CN401	AA60-40012F	PIN-GT	4P,2.36PI,6/12/14mm,NYLON66,LOCKI	1	S.N.A	
CN909	AA37-00001A	CONNECTOR-FBT FIX PIN	JM-3500,CPTTV,0.36	1	S.A	
CN909	AA37-00001A	CONNECTOR-FBT FIX PIN	JM-3500,CPTTV,0.36	1	S.A	
△ CR401S	2303-000282	C-FILM,LEAD-PPF	6nF,5%,1.6KV,TP,29*23*8.	1	S.A	
△ CR403S	2301-001401	C-FILM,LEAD-PPF	27nF,5%,630V,TP,19x11x17	1	S.A	
△ CR404S	2201-000639	C-CERAMIC,DISC	0.68NF,10%,2KV,Y5P,TP,9X5	1	S.A	
△ CR405S	2305-000382	C-FILM,LEAD-PEF	4.7nF,5%,400V,TP,-,5mm	1	S.A	
△ CR406S	2306-000179	C-FILM,LEAD-PPF	300nF,5%,250V,TP,20x18.5	1	S.A	
△ CR409	2201-000639	C-CERAMIC,DISC	0.68NF,10%,2KV,Y5P,TP,9X5	1	S.A	
△ CW03	2401-000603	C-AL	1UF,20%,50V,GP,TP,5X11,2	1	S.A	
△ CY801S	2201-000446	C-CERAMIC,DISC	3.3NF,20%,400V,Y5U,BK,15X	1	S.A	
D201	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
D201A	0404-000156	DIODE-SCHOTTKY	RB441Q,40V,350MA,DO-34,TP	1	S.A	
D301	0402-001105	DIODE-RECTIFIER	ERB43-04SV1,400V,1A,TS-1	1	S.A	
D302	0402-000534	DIODE-RECTIFIER	RG10V,400V,1.2A,DO-201,T	1	S.A	
D303	0402-000132	DIODE-RECTIFIER	1N4004,400V,1A,DO-41,TP	1	S.A	
D304	0402-001105	DIODE-RECTIFIER	ERB43-04SV1,400V,1A,TS-1	1	S.A	
D401	0402-001105	DIODE-RECTIFIER	ERB43-04SV1,400V,1A,TS-1	1	S.A	
D402	0402-001599	DIODE-RECTIFIER	DGP30L,1500,3A,DO-201AD(	1	S.A	
D403	0402-000540	DIODE-RECTIFIER	RU20A,600V,1.5A,-,TP	1	S.A	
D501	0402-000254	DIODE-RECTIFIER	RGP10J,600V,1A,DO-41,TP	1	S.A	
D502	0402-001105	DIODE-RECTIFIER	ERB43-04SV1,400V,1A,TS-1	1	S.A	
D503	0402-001105	DIODE-RECTIFIER	ERB43-04SV1,400V,1A,TS-1	1	S.A	
D504	0402-001105	DIODE-RECTIFIER	ERB43-04SV1,400V,1A,TS-1	1	S.A	
D603	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
△ D801S	0402-001111	DIODE-RECTIFIER	1N5397GP,600V,1.5A,-,TP	1	S.A	
△ D802S	0402-001111	DIODE-RECTIFIER	1N5397GP,600V,1.5A,-,TP	1	S.A	
D803	0401-000006	DIODE-SWITCHING	BAV21,250V,200mA,DO-35,T	1	S.A	
△ D803S	0402-001111	DIODE-RECTIFIER	1N5397GP,600V,1.5A,-,TP	1	S.A	
△ D804	0401-000006	DIODE-SWITCHING	BAV21,250V,200mA,DO-35,T	1	S.A	
△ D804S	0402-001111	DIODE-RECTIFIER	1N5397GP,600V,1.5A,-,TP	1	S.A	
D805	0402-001603	DIODE-RECTIFIER	MUR480E,800V,4A,DO-201AD	1	S.A	
D807	0402-001604	DIODE-RECTIFIER	MUR420,200V,4A,DO-201AD,	1	S.A	
D808	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
D809	0402-000132	DIODE-RECTIFIER	1N4004,400V,1A,DO-41,TP	1	S.A	
D810	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
D811	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
D812	0402-001105	DIODE-RECTIFIER	ERB43-04SV1,400V,1A,TS-1	1	S.A	
D813	0402-000493	DIODE-RECTIFIER	1R5GU41,400V,1.5A,DO-15L	1	S.A	
D814	0402-000132	DIODE-RECTIFIER	1N4004,400V,1A,DO-41,TP	1	S.A	
DZ101	0403-000700	DIODE-ZENER	MTZJ33A,5%,1000mW,DO-41,TP	1	S.A	
DZ201	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ202	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ203	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ204	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ205	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ206	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ208	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ210	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ211	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A	
DZ212	0403-001373	DIODE-ZENER	MTZJ5.1A,4.85-5.03V,500mW,DO	1	S.A	
DZ213	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A	
DZ214	0403-001373	DIODE-ZENER	MTZJ5.1A,4.85-5.03V,500mW,DO	1	S.A	
DZ215	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A	
DZ216	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A	
DZ217	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ301	0403-001328	DIODE-ZENER	MTZJ22A,20.15-21.2V,500mW,DO	1	S.A	
DZ302	0403-001328	DIODE-ZENER	MTZJ22A,20.15-21.2V,500mW,DO	1	S.A	
DZ303	0403-000700	DIODE-ZENER	TZP33A,5%,1000mW,DO-41,TP	1	S.A	

## Electrical Part List

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
DZ304	0403-001328	DIODE-ZENER	MTZJ22A,20,15-21.2V,500mW,DO	1	S.A	
DZ305	0403-001221	DIODE-ZENER	UZ39BSB,35.36-37.19V,500mW,D	1	S.A	
DZ306	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ307	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ401	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A	
DZ402	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A	
DZ501	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ502	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ503	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ504	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ601	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A	
DZ602	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A	
DZ602A	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A	
DZ801	0403-001140	DIODE-ZENER	RD10ESAB-T4,9.7-10.2V,400mW,	1	S.A	
DZ802	0403-001318	DIODE-ZENER	MTZJ4.3B,4.17-4.43V,500mW,DO	1	S.A	
DZ803	0403-000699	DIODE-ZENER	TZP27B,27-30.8V,1000mW,DO-41	1	S.A	
DZ804	0403-001316	DIODE-ZENER	MTZJ3.0A,2.85-3.07V,500mW,DO	1	S.A	
DZ805	0403-001327	DIODE-ZENER	MTZJ18A,16.22-17.06V,500mW,D	1	S.A	
DZ806	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ807	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A	
DZ808	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ810	0403-000509	DIODE-ZENER	MTZJ5.6B,5.4-5.7V,500mW,DO-3	1	S.A	
EL301	6042-000001	EYELET	ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	1	S.N.A	
EL302	6042-000001	EYELET	ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	1	S.N.A	
EL401	6042-000001	EYELET	ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	1	S.N.A	
EL402	6042-000001	EYELET	ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	1	S.N.A	
EL801	6042-000001	EYELET	ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	1	S.N.A	
EL802	6042-000001	EYELET	ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	1	S.N.A	
EY401	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY402	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY403	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY404	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY405	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY406	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY407	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY408	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY409	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY410	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY411	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY412	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY413	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY414	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY416	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY417	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY419	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY420	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY421	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY422	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY423	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY424	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY425	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY801	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY802	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY803	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY804	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY805	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY806	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY807	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY808	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY809	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY810	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY811	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY812	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY813	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY814	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY815	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY816	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY817	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY818	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY819	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY820	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY821	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY822	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY827	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY830	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY833	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
F101	2901-000297	FILTER-EMI ON BOARD	-,3A,-,3.5x5mm,TP,-	1	S.A	

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
	F101	2901-000297	FILTER-EMI ON BOARD	- ,3A,- ,3.5x5mm,TP,-	1	S.A
	F101	2901-000297	FILTER-EMI ON BOARD	- ,3A,- ,3.5x5mm,TP,-	1	S.A
	F801A	3602-000114	FUSE-HOLDER	-,-,30mohm	1	S.A
	F801B	3602-000114	FUSE-HOLDER	-,-,30mohm	1	S.A
△	FD801S	3601-001228	FUSE-AXIAL LEAD	125V,10A,FAST-ACTING,EPO	1	S.A
	FD802	3601-000281	FUSE-CARTRIDGE	250V,4A,TIME-LAG,GLASS,5.	1	S.A
	GT101	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A
	GT501	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A
	GT804	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A
	GT805	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A
	H/S	0502-001255	TR-POWER	ST2001HI(028Y),NPN,55000mW,-,ST	1	S.A
	H/S	AA61-01390A	BRACKET	CT-29A20HR,SECC,T1.0	1	S.N.A
	IC012	1203-001217	IC-POS1.ADJUST REG.	431,TO-92,3P,4.58MIL	1	S.A
	IC062	1203-003507	IC-MULTI REG.	GM7632,SIP,10P,25x15x4,PLA	1	S.A
	IC101	1204-000506	IC-IF DETECTOR	LA7510,SIP,9P,-,PLASTIC,1	1	S.A
	IC106	1001-001279	IC-VIDEO SWITCH	NJM2533,BIPOLAR,DIP,8P,3	1	S.A
	IC112	1103-001209	IC-EEPROM	24C04,512x8,DIP,8P,10.16x7.11m	1	S.A
△	IC201S	AA09-00490A	IC MICOM OTP	TDA9377PS/N3/A-OTP,OTP,64P,	1	S.N.A
	IC301	AA96-00244M	ASSY HEAT SINK P	LA78040N,S,AA64-00046	1	S.N.A
	IC501	AA96-50311A	ASSY HEAT SINK P	- ,VIDEO,AA62-30175D,TDA	1	S.N.A
	IC601	AA96-50398E	ASSY HEAT SINK P	AA62-30182E,TDA7297SA,S	1	S.N.A
△	IC602	1203-000515	IC-VOL. DETECTOR	7042,TO-92,3P,177MIL,PL	1	S.A
△	IC801S	AA96-00242F	ASSY HEAT SINK P	AA62-30186J,1203-002916	1	S.N.A
	IC802	AA96-02910B	ASSY HEAT SINK P	AA62-00146A,SCREW,GM763	1	S.N.A
	ICS601	1204-001662	IC-AUDIO PROCESSOR	MSP3425G-B8,DIP,52P,5	1	S.A
	JA333	3722-001333	JACK-PIN	9P,NI,BLK,ANGLE	1	S.A
	JA333	3722-001596	JACK-PIN	3P/9P,NI,BLK(GRN/BLU/RED),ANGLE	1	S.A
	L102	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A
	L103	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A
	L201	2701-000163	INDUCTOR-AXIAL	27UH,10%,3070	1	S.A
	L202	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A
	L203	2701-000299	INDUCTOR-AXIAL	13uH,10%,2534	1	S.A
	L204	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A
	L205	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A
	L206	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A
	L230	2701-000159	INDUCTOR-AXIAL	22UH,10%,4298	1	S.A
	L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,-,50	1	S.N.A
	L2514	3301-001223	BEAD-AXIAL	62ohm,3.5x0.8x5mm,TP,-,-	1	S.A
	L2514	3301-001223	BEAD-AXIAL	62ohm,3.5x0.8x5mm,TP,-,-	1	S.A
	L2514	3301-001223	BEAD-AXIAL	62ohm,3.5x0.8x5mm,TP,-,-	1	S.A
	L2514	3301-001223	BEAD-AXIAL	62ohm,3.5x0.8x5mm,TP,-,-	1	S.A
	L2514	3301-001223	BEAD-AXIAL	62ohm,3.5x0.8x5mm,TP,-,-	1	S.A
	L301	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A
	L302	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A
	L303	2701-001034	INDUCTOR-AXIAL	22UH,10%,4514	1	S.A
	L304	2701-001034	INDUCTOR-AXIAL	22UH,10%,4514	1	S.A
	L307	2701-000178	INDUCTOR-AXIAL	33UH,10%,3070	1	S.A
	L404	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A
	L501	2702-001094	INDUCTOR-RADIAL	10uH,10%,4x6mm	1	S.A
	L601	2701-000169	INDUCTOR-AXIAL	3.9UH,10%,2534	1	S.A
	L602	2701-000169	INDUCTOR-AXIAL	3.9UH,10%,2534	1	S.A
	L603	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A
	L702	2701-000158	INDUCTOR-AXIAL	22UH,10%,2534	1	S.A
	L707	2701-000127	INDUCTOR-AXIAL	15UH,10%,2534	1	S.A
	L801	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A
	L804	2701-001030	INDUCTOR-AXIAL	43UH,10%,4514	1	S.A
	L810	2701-000002	INDUCTOR-AXIAL	100UH,10%,4298	1	S.A
△	LD201	AA96-00555A	ASSY LED GUIDE	-,-,UEX-LD-030,GREEN	1	S.N.A
△	LX801S	AA29-00015A	FILTER LINE NOISE	WS32W8,28-20MH 1.5A,+,-	1	S.A
	M0014	AA97-16821A	ASSY AUTO-MAIN	CL21M40MQGXGSU,MI,KS9C	1	S.N.A
	M0018	AA97-16768A	ASSY MICOM	T- RAYNUS -1700,KS9C,RAY,NTSC	1	S.A
	M0081	6003-000333	SCREW-TAPTITE	RH,+,2S,M3,L10,ZPC(YEL),SW	1	S.N.A
	M0081	6003-000335	SCREW-TAPTITE	RH,+,2S,M3,L8,ZPC(YEL),SWR	1	S.N.A
	M0081	6003-000333	SCREW-TAPTITE	RH,+,2S,M3,L10,ZPC(YEL),SW	1	S.N.A
	M0081	6003-000334	SCREW-TAPTITE	RH,+,2S,M3,L6,ZPC(YEL),SWR	1	S.N.A
	M0081	6003-000333	SCREW-TAPTITE	RH,+,2S,M3,L10,ZPC(YEL),SW	1	S.N.A
	M0081	6003-000334	SCREW-TAPTITE	RH,+,2S,M3,L6,ZPC(YEL),SWR	1	S.N.A
	P803T	1404-001264	THERMISTOR-PTC	4.5OHM,+30/-20%,220V,290V	1	S.A
△	PC801S	0604-001032	PHOTO-COUPLER	TR,170-260%,300mW,DIP,4,ST	1	S.A
△	PD801S	AA60-40012G	PIN-GT	3P,2.36PI,10/5mm,NYLON66,LOCKING	1	S.N.A
	Q201	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A
	Q202	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A
	Q203	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A
	Q204	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A
	Q208	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A
	Q211	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A
	Q401	AA96-02906A	ASSY HEAT SINK P	AA62-00145A,SCREW,ST200	1	S.N.A

## Electrical Part List

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
Q402	0501-000369	TR-SMALL SIGNAL	KSC2331-Y,NPN,1000mW,TO-	1	S.A	
Q601	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
Q701	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
Q702	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
Q802	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
Q803	0501-000369	TR-SMALL SIGNAL	KSC2331-Y,NPN,1000mW,TO-	1	S.A	
Q804	0502-001007	TR-POWER	KSC2073-H2,NPN,25W,TO-220,ST,6	1	S.A	
R101	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
R102	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
R107	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R108	2001-000947	R-CARBON	7.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R109	2001-000786	R-CARBON	47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R110	2001-000924	R-CARBON	680OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R202	2001-000689	R-CARBON	390KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R202A	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R203	2001-000857	R-CARBON	560OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R203A	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R205	2001-000397	R-CARBON	180KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R206	2001-000010	R-CARBON	68KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R207	2001-000005	R-CARBON	390ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
R208	2001-000591	R-CARBON	3.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R211	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R212	2001-000554	R-CARBON	270OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R214	2001-000490	R-CARBON	200OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R218	2001-000008	R-CARBON	15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R219	2004-001914	R-METAL	39Kohm,2%,1/8W,AA,TP,1.8x3.5mm	1	S.A	
R220A	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R222	2001-000947	R-CARBON	7.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R224	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R227	2001-000739	R-CARBON	4.7MOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R228	2001-000739	R-CARBON	4.7MOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R233	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R234	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R235	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R236	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R236A	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R237	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R238	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R239	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R240	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R241	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R242	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R243	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R244	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R245	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R246	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R246A	2001-000793	R-CARBON	47OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R247	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R247A	2001-001035	R-CARBON	91OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R248	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R248A	2001-000343	R-CARBON	130OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R249	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R250	2001-000924	R-CARBON	680OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R251	2001-000793	R-CARBON	47OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R252	2001-000241	R-CARBON	1.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R253	2001-000472	R-CARBON	2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R254	2001-000005	R-CARBON	390ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
R255	2001-000005	R-CARBON	390ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
R256	2001-000472	R-CARBON	2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R256A	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R257	2001-000472	R-CARBON	2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R258	2001-000241	R-CARBON	1.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R259	2001-000472	R-CARBON	2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R261	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R262	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R263	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R264	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R288	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R291	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R293	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R301	2001-000016	R-CARBON(S)	1OHM,5%,1/2W,AA,TP,2.4X6.4MM	1	S.A	
R302	2008-001076	R-FUSIBLE(S)	1.8ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R303	2008-000290	R-FUSIBLE(S)	2.4ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R304	2008-000252	R-FUSIBLE(S)	0.47ohm,10%,1/2W,AF,TP,2.5x	1	S.A	
R305	2008-000252	R-FUSIBLE(S)	0.47ohm,10%,1/2W,AF,TP,2.5x	1	S.A	
R306	2001-001050	R-CARBON(S)	1.5KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R307	2004-001371	R-METAL(S)	1.5Kohm,1%,1/2W,AA,TP,2.4x6.4	1	S.A	

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
R315	2003-002009	R-METAL OXIDE(S)	390ohm,5%,2W,AF,TP,3.9x	1	S.A	
R316	2003-002009	R-METAL OXIDE(S)	390ohm,5%,2W,AF,TP,3.9x	1	S.A	
R402	2003-002178	R-METAL OXIDE(S)	1Kohm,5%,2W,AG,TP,3.9x1	1	S.A	
R403	2003-002151	R-METAL OXIDE	18KOHM,5%,2W,AG,TP,6X16MM	1	S.A	
R405	2001-001116	R-CARBON(S)	270HM,5%,1/2W,AA,TP,2.4X6.4MM	1	S.A	
R407	2003-001040	R-METAL OXIDE(S)	47Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R409	2001-000022	R-CARBON(S)	33OHM,5%,1/2W,AA,TP,2.4X6.4MM	1	S.A	
R411	2001-001114	R-CARBON(S)	270OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R414	2001-001078	R-CARBON(S)	15KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R420	2008-000264	R-FUSIBLE(S)	1ohm,5%,1W,AF,TP,3.9x10mm	1	S.A	
R421	2008-000266	R-FUSIBLE(S)	1ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R423	2004-001407	R-METAL(S)	82.5Kohm,1%,1/2W,AA,TP,2.4x6.	1	S.A	
R424	2004-001402	R-METAL(S)	6.8Kohm,1%,1/2W,AA,TP,2.4x6.4	1	S.A	
R501H	2002-001008	R-COMPOSITION	1.8Kohm,10%,1/2W,AA,TP,3.7	1	S.A	
R502H	2002-001008	R-COMPOSITION	1.8Kohm,10%,1/2W,AA,TP,3.7	1	S.A	
R503	2002-001008	R-COMPOSITION	1.8Kohm,10%,1/2W,AA,TP,3.7	1	S.A	
R504	2001-001062	R-CARBON(S)	10MOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R505	2008-001138	R-FUSIBLE	2.4OHM,5%,1W,AF,TP,3.9X10MM	1	S.A	
R510	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R511	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R512	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R601	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R602	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R603	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R604	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R605	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R606	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R607	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R608	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R609	2001-000613	R-CARBON	3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R610	2001-000613	R-CARBON	3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R611	2001-000613	R-CARBON	3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R613	2001-000613	R-CARBON	3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R615	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R617	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R618	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R621	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R622	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R703	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R704	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R705A	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R706A	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R707	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R707A	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R709A	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R710	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R712A	2001-000273	R-CARBON	100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R713	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R713A	2001-000273	R-CARBON	100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R714A	2001-000786	R-CARBON	47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R716	2001-000522	R-CARBON	22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R717	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R718	2001-000515	R-CARBON	220OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R719	2001-000554	R-CARBON	270OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R720	2001-000258	R-CARBON	1.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R801	2003-000994	R-METAL OXIDE(S)	33Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R804	2003-000994	R-METAL OXIDE(S)	33Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R805	2001-001170	R-CARBON(S)	6.8OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R807	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R808	2001-000109	R-CARBON(S)	470OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R809	2001-001150	R-CARBON(S)	470KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R810	2001-001150	R-CARBON(S)	470KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R814	2001-001105	R-CARBON(S)	20OHM,5%,1/2W,AA,TP,2.4X6.4MM	1	S.A	
R816	2001-001105	R-CARBON(S)	20OHM,5%,1/2W,AA,TP,2.4X6.4MM	1	S.A	
R817	2004-001377	R-METAL(S)	120Kohm,1%,1/2W,AA,TP,2.4x6.4	1	S.A	
R818	2001-001154	R-CARBON(S)	5.1KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R819	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4MM	1	S.A	
R820	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4MM	1	S.A	
R821	2001-001131	R-CARBON(S)	33KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R822	2004-001983	R-METAL(S)	2.49Kohm,1%,1/2W,AA,TP,2.4x6.	1	S.A	
R823	2001-000037	R-CARBON(S)	330OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R824	2008-001033	R-FUSIBLE(S)	10ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R825	2008-000264	R-FUSIBLE(S)	1ohm,5%,1W,AF,TP,3.9x10mm	1	S.A	
R827	2003-002009	R-METAL OXIDE(S)	390ohm,5%,2W,AF,TP,3.9x	1	S.A	
R828	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R829	2001-000563	R-CARBON	27KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R830	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	

## Electrical Part List

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
R831	2001-001197	R-CARBON(S)	910OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R832	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R833	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R834	2003-001040	R-METAL OXIDE(S)	47Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R835	2003-001040	R-METAL OXIDE(S)	47Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R836	2001-001093	R-CARBON(S)	2.2KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R837	2003-001040	R-METAL OXIDE(S)	47Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R840	2001-001108	R-CARBON(S)	22KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R842	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R843	2001-000019	R-CARBON(S)	10OHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R850	2001-001170	R-CARBON(S)	6.8OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
△ RL801S	3501-001053	RELAY-POWER	5Vdc,530mW,1000mA,1FormA,15	1	S.A	
RM201	AA32-00014A	Module Remocon	BOX,-,-	1	S.A	
△ RR401S	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
RW03	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
△ RY801S	2002-001012	R-COMPOSITION	8.2Mohm,5%,1/2W,AA,TP,3.7x	1	S.A	
△ SF101S	2904-001107	FILTER-SAW AV	45.75MHz,SIP5K,TP,12.6dB,N	1	S.A	
△ SF102S	2904-001255	FILTER-SAW AV	45.75MHz,SIP5K,ST,12.2dB,M	1	S.A	
T0010	AA27-00296A	COIL CHOKE	220UH,CPTTV,220UH,10%,3A,DR14	1	S.A	
T0066	AA62-30171J	HEAT SINK-ES	-,-,-,SILVER,-,DREAM1,-,-,-	1	S.N.A	
T0066	AA62-30182E	HEAT SINK-ES	-,A6063 EXTR,-,WHT,-,-,-,40	1	S.N.A	
T0074	1201-001159	IC-VIDEO AMP	6107,ZSIP,9P,-,SINGLE,-,PLA	1	S.A	
T0077	AA41-01209A	PCB MAIN	21K40,FR-1,245X245,KS9C,1A,MAIN	1	S.N.A	
T0085	1201-002118	IC-AUDIO AMP	TDA7297SA,ZIP,15P,-,DUAL,32	1	S.A	
T0086	1203-002916	IC-PWM CONTROLLER	KA5Q0765RTH-YDTU,TO-22	1	S.A	
T0088	1204-002121	IC-VERTICAL DEF.	LA78040N,TO220,7P,-,PLA	1	S.A	
T0098	AA62-00145A	HEAT SINK	KS9A,A1050,T1.0,23,50,WHITE,PS	1	S.N.A	
T0105	AA60-30001A	WASHER-PLATE	M3,ID3.5,15X8.5,T1.0,SBHG	1	S.N.A	
T0175	AA62-00046A	HEAT SINK-PS	-,-,T1.0,-,D1(DREAM) 60X25X	1	S.N.A	
T0175	AA62-30175D	HEAT SINK-PS	-,SECC,T1.0,-,33X15X30 FT-2	1	S.N.A	
T0175	AA62-00146A	HEAT SINK-PS	FULLMONTY,SPC-1,T1.0,35,30,	1	S.N.A	
T0245	0202-001366	SOLDER-WIRE FLUX	-,RS60S,D1.2,63Sn/37Pb,	0.001	S.N.A	
T0245	0202-001492	SOLDER-WIRE FLUX	HSE-02 LFM48 SR-34 S,-,	0.025	S.N.A	
T0245	AA39-20620C	LEAD CONNECTOR-ASSY	,9P,500MM,YBNBH250-09	1	S.A	
T0296	AA27-30003L	COIL LINEARITY	-,73uH,DR12x15,0.55mm,-,B	1	S.A	
T0313	3404-000295	SWITCH-TACT	12VDC,50mA,160gf,8.4X22.7,SP	1	S.A	
T0313	3404-001252	SWITCH-TACT	12VDC,50MA,130GF,7.5X7.1,1	1	S.A	
T0313	3404-001252	SWITCH-TACT	12VDC,50MA,130GF,7.5X7.1,1	1	S.A	
T0313	3404-001252	SWITCH-TACT	12VDC,50MA,130GF,7.5X7.1,1	1	S.A	
T0313	3404-001252	SWITCH-TACT	12VDC,50MA,130GF,7.5X7.1,1	1	S.A	
T0313	3404-001252	SWITCH-TACT	12VDC,50MA,130GF,7.5X7.1,1	1	S.A	
T0900	1404-001045	THERMISTOR-NTC	4.7ohm,4.565A,2900K,-,-,-	1	S.A	
T401	AA26-50001B	TRANS-H.DRIVE	-,-,-,7.1mH,-,-,102uH,-,-,	1	S.A	
T444	AA26-00201A	TRANS FBT	FCA173B,KS1A-1,3.8mH,FERRITE,1	1	S.A	
△ T801S	AA26-00043B	TRANS SWITCHING	-,CS21S5T,-,80~280V,PM2,	1	S.A	
△ V999S	3704-001105	SOCKET-CRT	11P,20PI,26.5PI,Ni,-	1	S.A	
△ VX802S	1405-000152	VARISTOR	560V,2500A,14x8.5mm,TP	1	S.A	
X201	2801-004033	CRYSTAL-UNIT	12MHz,30ppm,28-AAM,30pF,30o	1	S.A	
X601	2801-004379	CRYSTAL-UNIT	18.432MHz,30ppm,28-AAM,8pF,	1	S.A	
Z201	2903-000129	FILTER-CERAMIC	BR,4.5MHz,-,-,-,TP,-	1	S.A	

## ASSY BOX

M0003	AA92-11812F	ASSY BOX	CL21M40MQGXXAO	1	S.N.A	
T0130	AA69-03589A	BOX-00,SET	21M40,DW-3,YEL,A1,W685,D565,H	1.01	S.N.A	

## ASSY P/MATERIAL

M0113	AA92-11813A	ASSY P/MATERIAL	CL21M40MQGXXAX	1	S.N.A	
T0376	6902-000001	BAG AIR	LDPE,T0.2,L1800,W1000,TRP,,,LDPE	0.008	S.N.A	
T0524	6902-000005	BAG PE	HDPE/NITRON/HDPE,T0.015/T0.5/T0.0	1	S.N.A	
T0376	6902-000061	BAG AIR	LDPE,T0.2,L1000,W500,TRP,,,	0.03	S.N.A	
T0214	AA60-40006A	PIN-STAPLE	AUTO,33X17.8X2.4,H18,33X17.8X	6	S.N.A	

## ASSY ACCESSORY

M0045	AA92-11838D	ASSY ACCESSORY	CL21M40MQGXXAO,MI,KS9C	1	S.N.A	
M0045	AA96-04373D	ASSY ACCESSORY	CL21M40MQGXXAO,MI,KS9C	1	S.N.A	
T0251	3721-000136	PLUG-CONVERSION	2P,4.0mm,N,Ni	1	S.A	
T0524	6902-000009	BAG PE	HDPE,T0.03,L400,W240,TRP,8,2,PE M	1	S.N.A	
T0903	AA26-90001F	TRANS MATCHING	-,300ohm/75ohm,NTSC,40-89	1	S.A	
T0116	AA39-40001B	CABLE RCA	,3P,1500MM,RED/WHT/YEL,RCA,RCA	1	S.A	

Loc.No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
T0075	AA42-00003A	ANT ROD	-,3S,720mm,ABS,UL/CSA,-	1	S.N.A	
T0074	AA59-00385A	REMOCON	TIMECOP,TM85,39,INTERACE,NTSC,NO	1	S.A	
0	AA68-03242F	MANUAL FLYER-01,SAFETY GUIDE	All Model,S	1	S.N.A	
T0238	AA68-03727A	MANUAL FLYER-WARRANTY CARD	All,SAMSUNG,S	1	S.N.A	
M0753	AA68-03810A	MANUAL USERS-04	Comm,Samsung,English,Mex	1	S.N.A	
M0753	AA68-03810C	MANUAL USERS-04	Comm,Samsung,Spanish,Mex	1	S.N.A	

## ASSY COVER FRONT

M0001	AA90-05602F	ASSY COVER FRONT	CL21M40MQGXXAO	1	S.N.A	
M0081	6003-001026	SCREW-TAPTITE	RH,+,B,M4,L15,ZPC(BLK),SWR	7	S.A	
M0081	6003-001026	SCREW-TAPTITE	RH,+,B,M4,L15,ZPC(BLK),SWR	2	S.A	
M0081	6003-001268	SCREW-TAPTITE	TH,+,B,M4,L12,ZPC(YEL),SWR	1	S.N.A	
T0238	AA60-10050V	BOLT-HEX	-,SWRCH18A,M6,L30,HH,+,WC,-,Z	4	S.N.A	
T0003	AA96-04356A	ASSY COVER P-FRONT	21M40,HIPS,HB,GR503,B	1	S.A	
M0081	6003-001019	SCREW-TAPTITE	RH,+,B,M4,L12,ZPC(BLK),S	1	S.A	
M0081	6003-001019	SCREW-TAPTITE	RH,+,B,M4,L12,ZPC(BLK),S	8	S.A	
M0081	6003-001019	SCREW-TAPTITE	RH,+,B,M4,L12,ZPC(BLK),S	1	S.A	
T0069	AA60-00091G	SPACER-FELT	-,FELT,200X10,-,BLK,T0.5,-	2	S.N.A	
T0069	AA60-00091R	SPACER-FELT	-,FELT,250X10,-,BLK,T0.5,-	1	S.N.A	
T0607	AA61-40113A	STOPPER-PCB	501H,HIPS,-,HB,NTR,-	1	S.N.A	
CIS7	AA61-60003J	SPRING ETC-CS	-,SUS304,-,OD6,N7,OD6,-	1	S.N.A	
M0112	AA63-01506A	COVER-FRONT	21M40(SAMEX),HIPS,T2.5,HB,GR	1	S.N.A	
T0022	AA64-04400A	KNOB CONTROL	29M40(SAMEX),ABS,HB,SVM3012	1	S.N.A	
	AA64-04401A	WINDOW-RMC LED	29M40(SAMEX),PC,CLEAR	1	S.N.A	
T0023	AA64-04402A	KNOB-POWER	21M40(SAMEX),ABS,HB,SVM3012	1	S.N.A	
T0057	AA64-70123A	BADGE-BRAND	NEW,AL,L50,FLAT,SILVER,SAMSU	1	S.N.A	
T0527	AA65-00011C	CLAMPER CORE-WIRE	ALL MODEL,NYLON 66,V2,	1	S.N.A	
T0527	AA65-30105A	CLAMPER CORE-WIRE	ALL MODEL,NYLON 66,V2,	1	S.N.A	
T0175	AA96-00358E	ASSY SPEAKER P	-,8ohm,5W,3001-000274,400	1	S.A	
T0082	3001-000274	SPEAKER	5W,8OHM,90DB,160HZ	2	S.A	
T0245	AA39-00102S	LEAD CONNECTOR-ASSY	,4P,400,600MM,35155-	1	S.A	
T0382	BP61-00509C	HOLDER-CARE	PJT,ACRYL-FOAM,T0.25,W20.0mm	0.28	S.N.A	
T0382	BP61-00495C	HOLDER-CARE	PJT,ACRYL-FOAM,T0.25,W30.0mm	0.2	S.N.A	

## ASSY COVER REAR

M0002	AA90-05603A	ASSY COVER REAR	CL21M40MQGXXAX	1	S.N.A	
T0069	AA60-00091J	SPACER-FELT	-,FELT,330X10,-,BLK,T0.5,-	3	S.N.A	
M0006	AA63-01507A	COVER-REAR	21M40(SAMEX),HIPS,T2.3,HB,BK5	1	S.A	
T0578	AA64-03660Z	INLAY AV	21Z30(NT),PS,T0.3,BLK,SHEET,K16	1	S.N.A	
T0066	AA64-03974K	INLAY-BACK	K16A(XAZ),PS,SHEET,T0.3,BLK,R	1	S.N.A	
T0522	AA65-30008A	CLAMPER CORE-CORD	-,PE,HB,-,BLK,-	1	S.N.A	

## ASSY CPT

T0521	AA91-07326E	ASSY CPT	21 SDI,0MG,A51QDX993X	1	S.N.A	
△ T0063	AA03-00403A	CRT COLOR	A51QDX993X,0MG,1.75MH,18MH,3.1	1	S.A	
T0079	AA27-00002A	MAGNET CONVERGENCE	JH291-11D,29.1MM	1	S.A	
△ T0078	AA27-00324A	DEFLECTION YOKE	,DIF-2192AA(A),S/T,A51QD	1	S.A	
T0299	AA63-60028A	SPACER-DY	-,NEOPRENE,-,-,BLK,-,V0 W1	4	S.N.A	
T0527	AA65-00009B	CLAMPER CORE-D,COIL	21A8,NYLON 66,V0,-	4	S.A	
T0603	AA98-70014D	ASSY TBC WIRE P	TVI,22,NTSC,PAL,1P,UL101	1	S.N.A	
T0089	AA27-00384A	COIL DEGAUSSING	2.50mH,35Ts,4.5ohm,22,F	1	S.A	

## ASSY FIXING

T0892	AA91-09972C	ASSY FIXING	CL21K40MQGXSTR,KS9C,NTSC,RAY	1	S.N.A	
T0016	AA65-30009A	CLAMPER CORE-FBT	-,ABS,V0,-,BLK,-	1	S.N.A	
T0527	AA65-30018A	CLAMPER CORE-WIRE	DONG-A,NYLON-66,-,-,-	2	S.N.A	
T0527	AA65-30111A	CLAMPER CORE-WIRE	ALL MODEL,NYLON,V0,WHT	1	S.N.A	
△ T0066	AA96-20109C	ASSY POWER CORD	-,CP2/NO(4.0),H/C300,KKP	1	S.A	
T0061	3811-001609	WIRE-PVC CU	BCWA,300V,ROLL,-,22,BLK	0.15	S.N.A	
T0268	AA39-10006X	CBF-POWER CORD	-,KKP419C,3P,-,BLK,-	1	S.A	
T0010	AA61-20284A	HOLDER	P-CORD,PP,-,-,BLK,VO,KE-002	1	S.N.A	

# MEMO

---

## 6. Troubleshooting

---

### 6-1 Checkpoints by Error Mode

---

- Power LED: Check that the LED works when turning the Tact Switch ON/OFF
- LED Indicators: See table 6-2-1 Basic Troubleshooting: LED Diagnosis on the Front Panel.
- In case of a power failure or abnormal screen, check the following items.
  - 1) Check that the power cord is correctly connected to electrical source equipment.
  - 2) Check that the Tact Switch has been pressed.
  - 3) Check that the signal cable is properly connected.
  - 4) Check that channel setting has been set.

## 6-2 Troubleshooting Procedures by Error Modes

### 6-2-1 Basic Troubleshooting: Diagnosis of LED on the Front Panel

● : Light is Blinking

○ : Light is Off

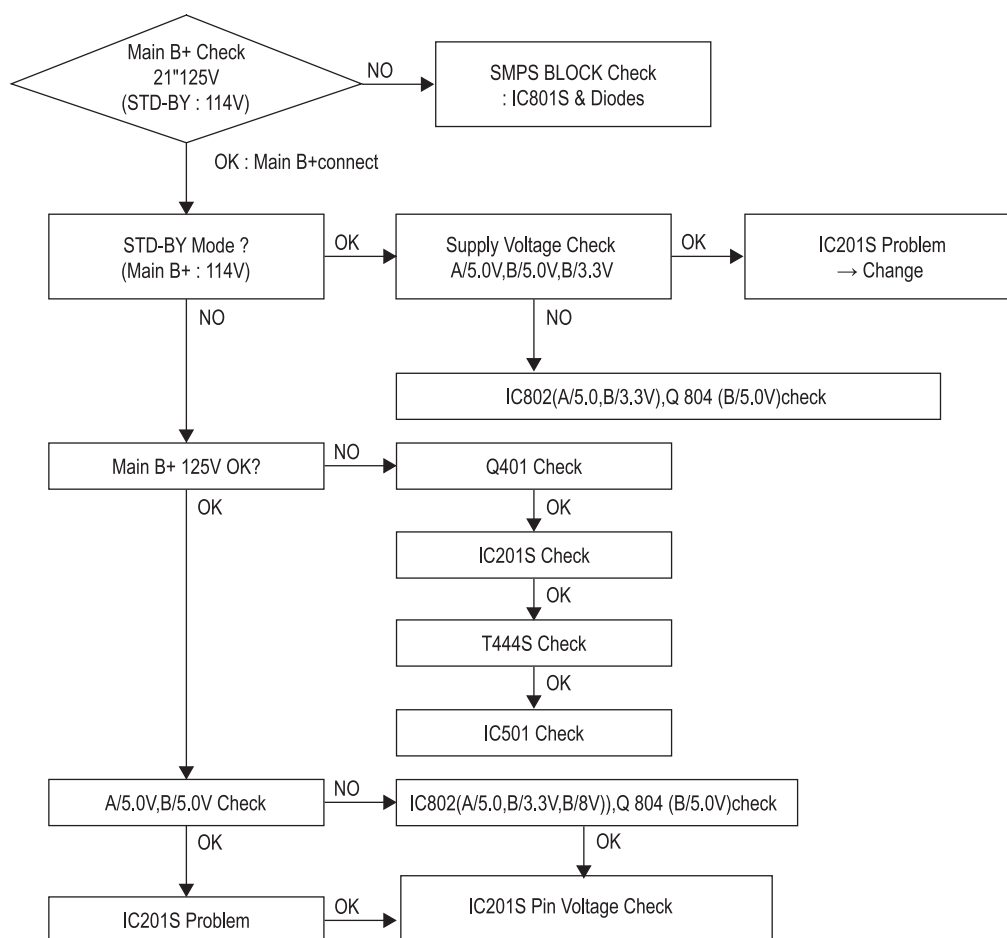
Power	Description
○	This happens when the Tact Switch is not pressed or the power cord is disconnected.
○ → ● → ●	If you press the power switch of the or the channel key on the remote control when in St-BY status, the screen will be turned on. If the LED blinks and the screen is not displayed, check the connection between the Power and the Main Board.

#### ■ Troubleshooting Mechanism :

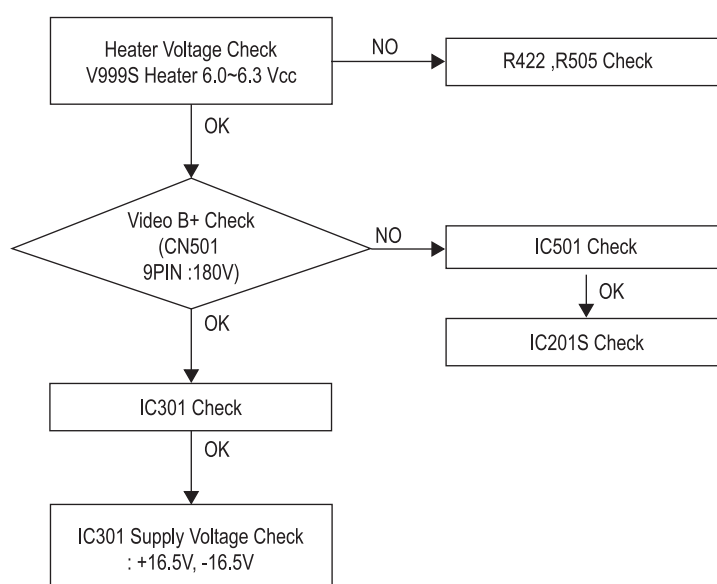
- The System Block has the last output terminal, TDA9377PS/N3, which shows the internal Test pattern.
- The Power Block supplies power to the Deflection Block
- The System Block receives all signal inputs, the signal-processed signal is sent to CRT Ass'y.  
Deflection and focus are controlled by the Deflection Block

## 6-3 Troubleshooting Procedures by ASS'Y

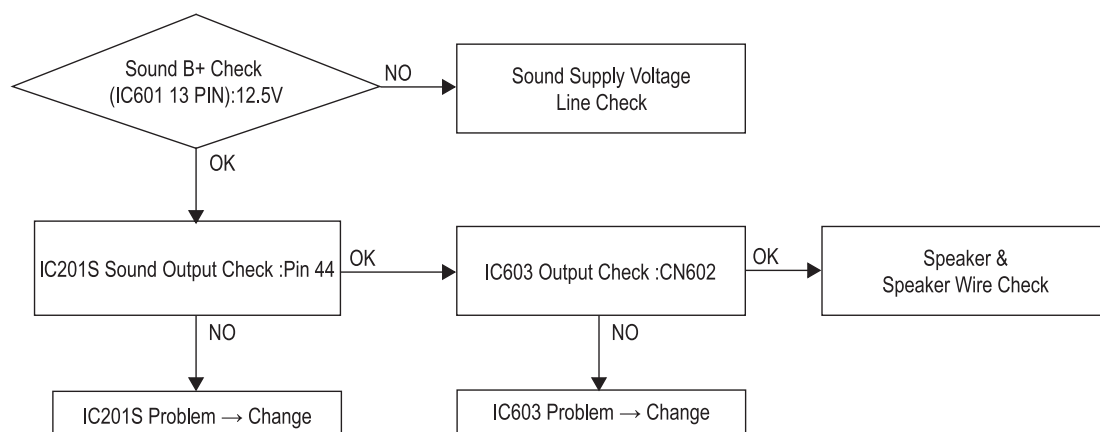
### 1. NO Power



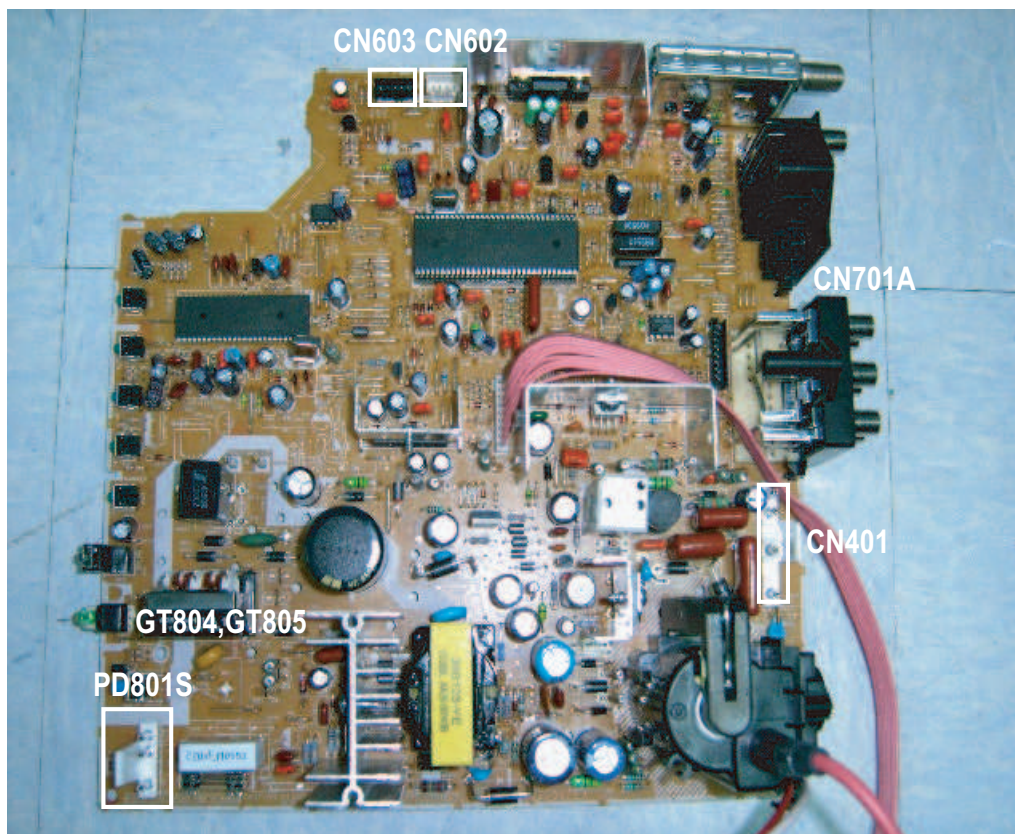
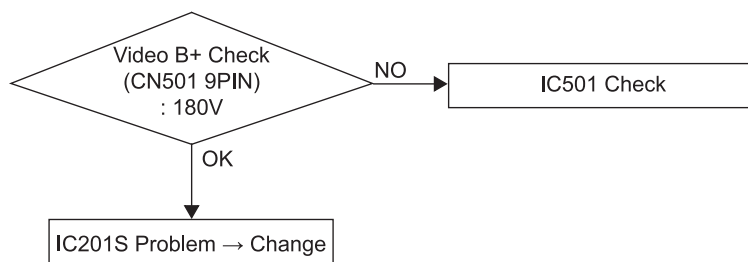
### 2. NO Video



### 3. NO Sound



### 4. Fly Back Lion Badness



## 6-4 Troubleshooting by Blocks

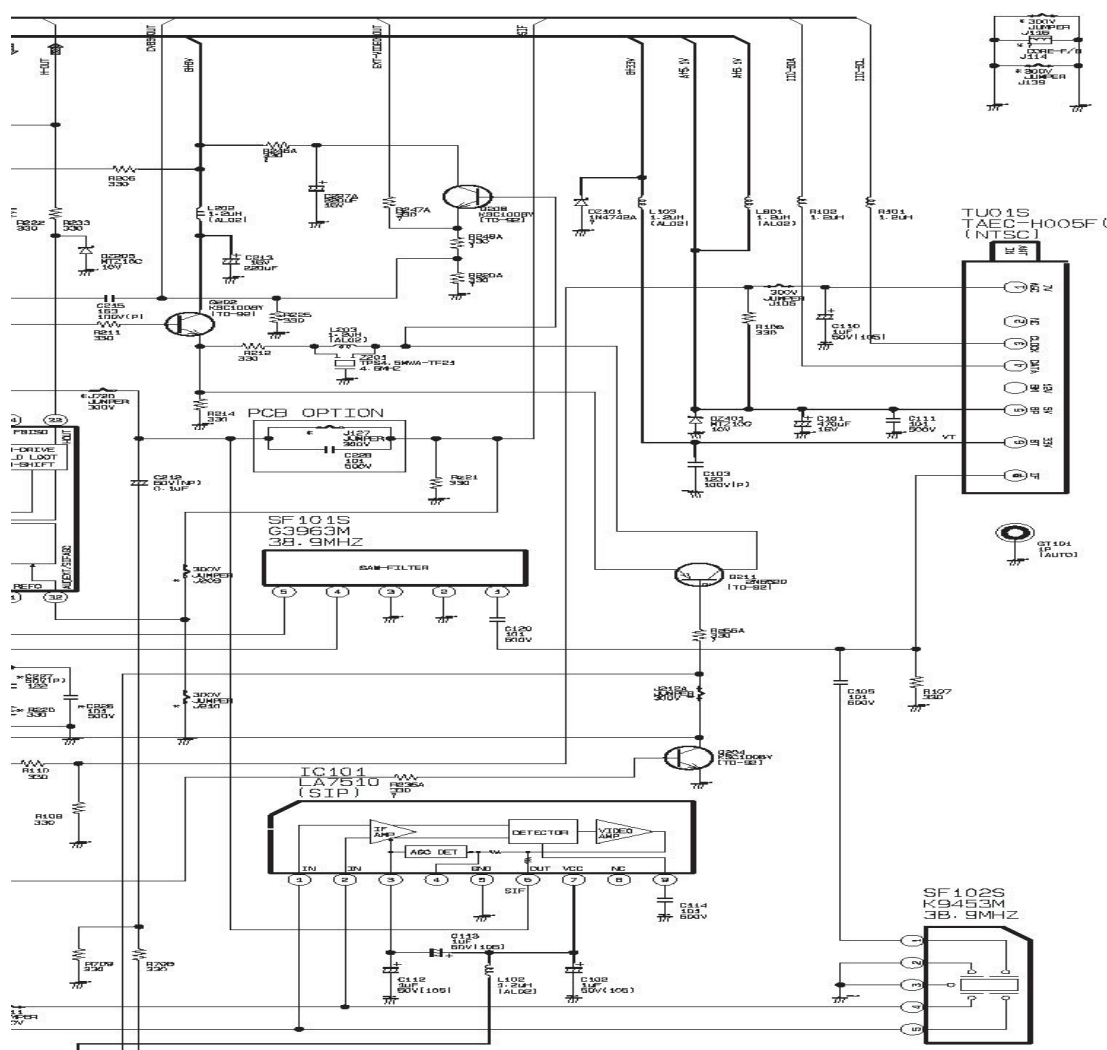
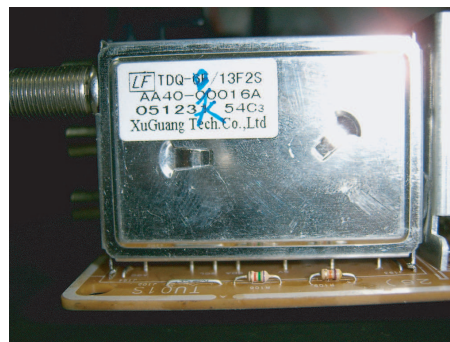
## 6-4-1 Troubleshooting Main Board

## 1. Tuner Diagnosis

The RF / CTV signal is transmitted to the Tuner of the Main Board

If the signal is not received, check the following items

- Power supply: 5V, 33V
- Check for RF defects: Check the IF & CVBS output
- Check for AUDIO defect: Check the SIF Signal output





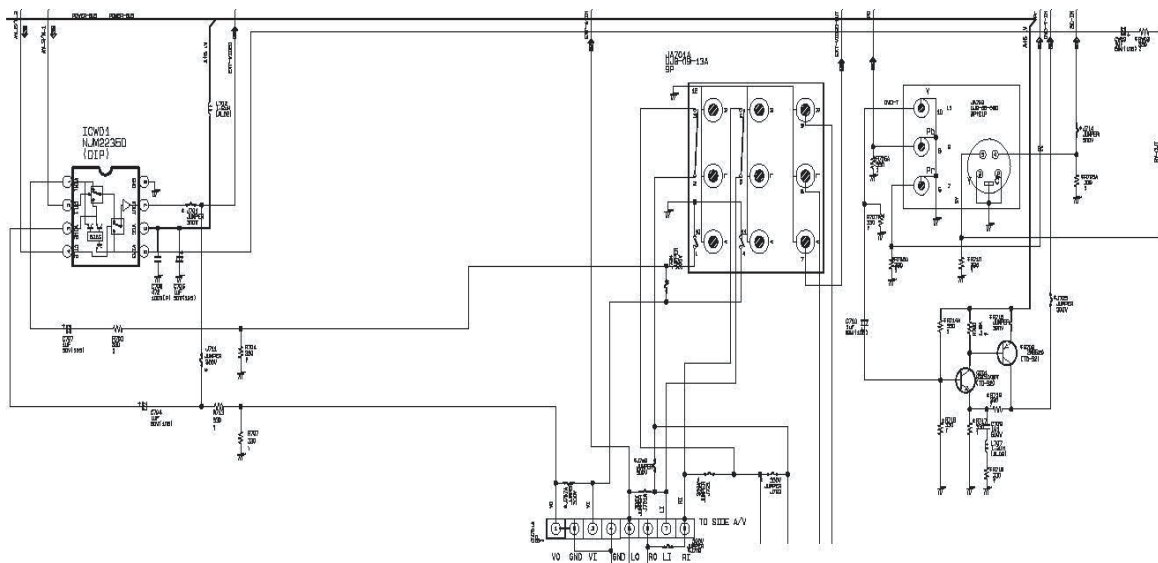
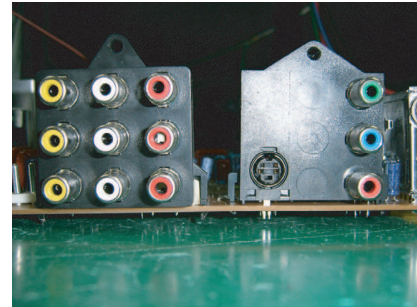
### 3. External Input Diagnosis

This consists of AV1/2 and Component signal inputs as well as monitor output (Video, Audio).

The signals are sent to UOC and the selected signals are output.

If the signal input or output does not work, check the following items.

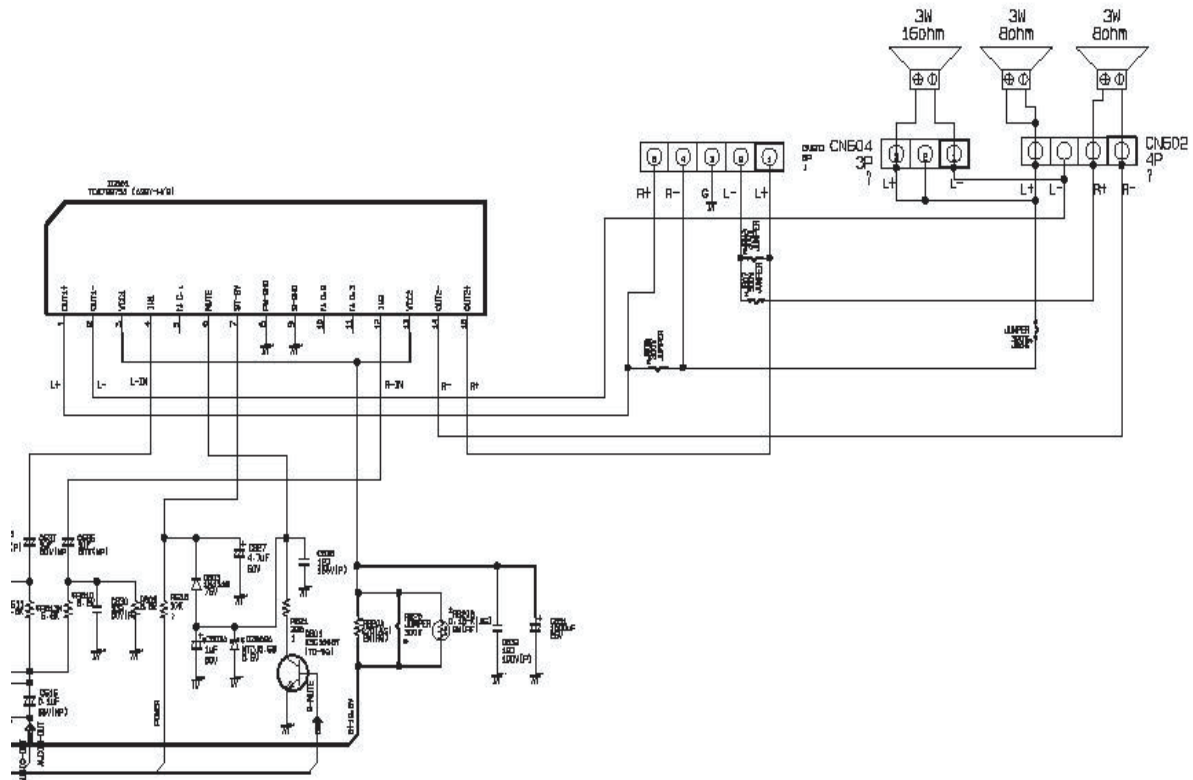
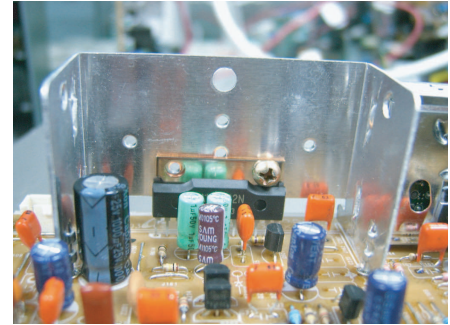
- Check for input defects: Check the Micom input pin.
- Check for output defects: Check JA701A (for RF/AV) or JA702(for comp)



#### 4. TDA7297SA (Audio Processor) Diagnosis

This receives the signal from the MICOM(TDA9377PS/N3) and outputs the signal in 10W + 10W sound.

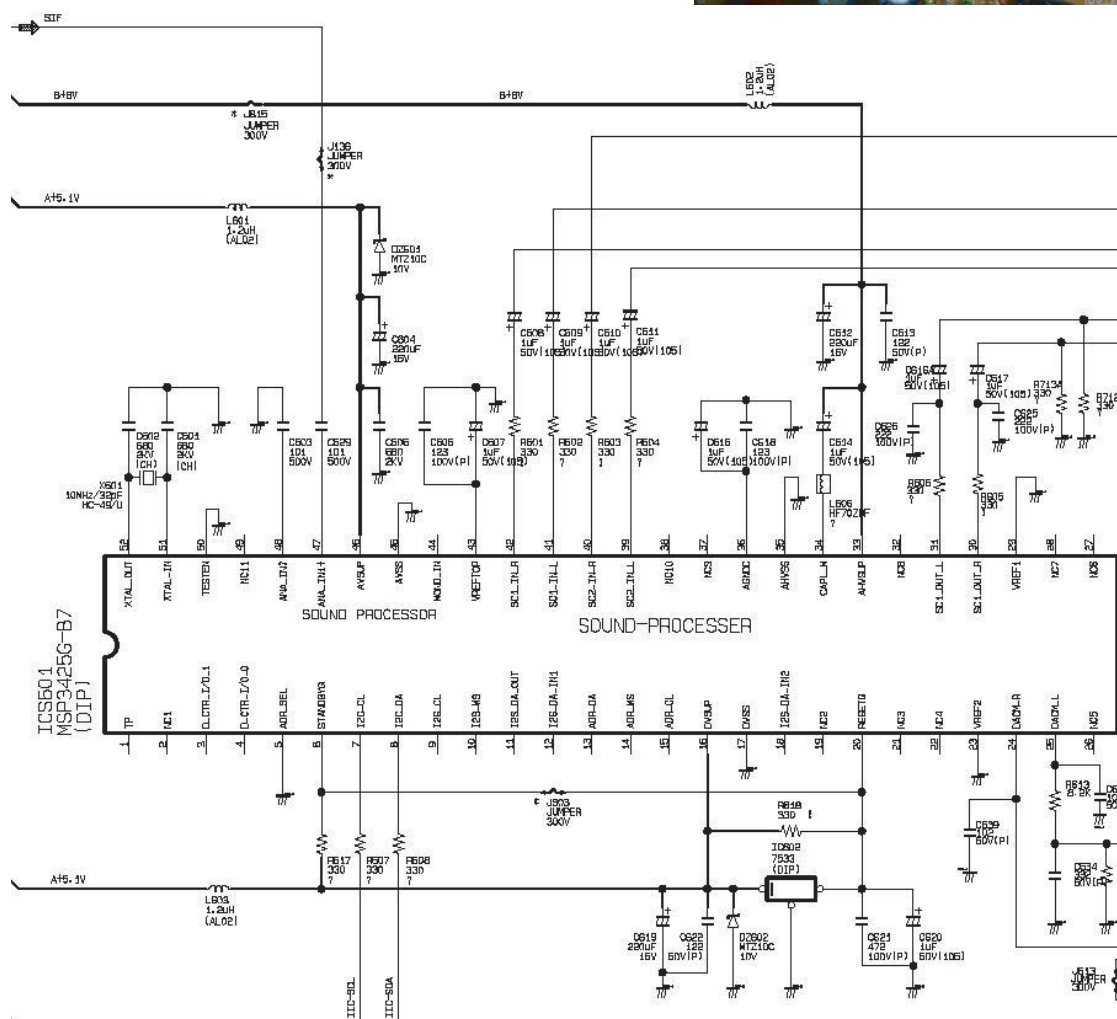
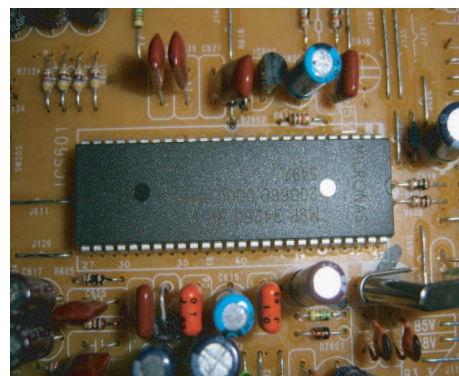
- Power supply : 12.5V
- Check for input defects : AMP-R,AMP-L
- Check for output defects : L+, L-, R+,R-



# 5. MSP3425G-B8(Audio Processor) Diagnosis

This receives the signal from the Audio Processor (TDA9377PS/N3) and outputs the signal in TDA9377PS/N3

- Power supply : 12.5V
- Check for input defects : B+8V, A+5V
- Check for output defects : DACM\_R,DACM\_L



## 6-4-2 Troubleshooting Deflection Block

### ■ Countermeasures by Deflection Types

#### Countermeasures by Deflection Types

1. The screen is blank and only the relay repeats close and open when turning the power on.

This happens when the vertical voltage or vertical signal is not supplied, and because the Micom operates for 5 to 10 seconds and then turns the power off by force as it cannot detect the vertical signal.

#### 2. CHECK POINT

- Check that the vertical output voltage is measured in the FBT terminal.

VCC (+) : +16.5v

VCC (-) : -16.5V

If you cannot measure the output voltage, check that the collector voltage of the horizontal TR is 1360V.

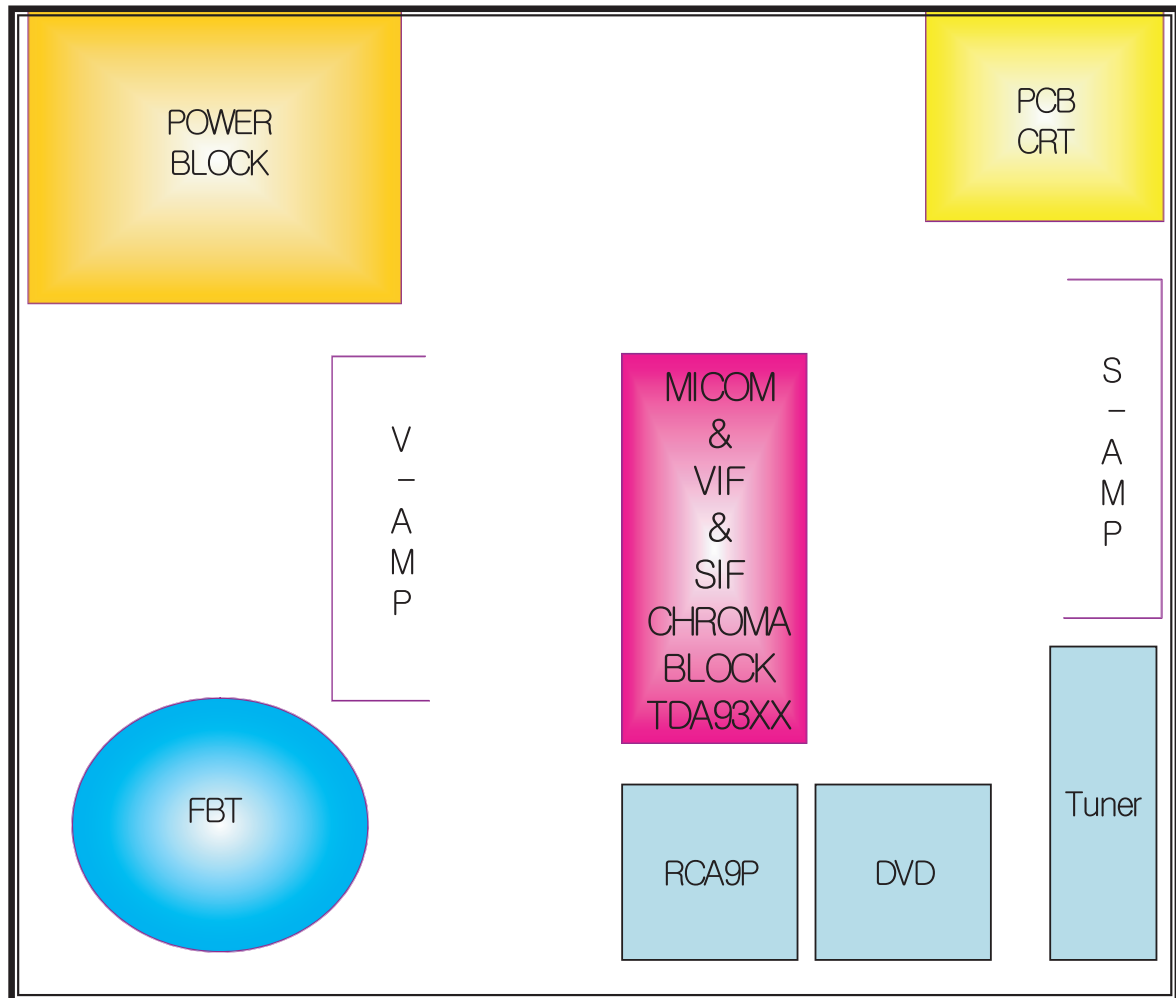
If the voltage is measured, the problem is a defect in the FBT unit.

(When you don't have an oscilloscope, and you can hear the high-voltage sound, you can determine that the horizontal TR is normal.)

Is the vertical input waveform output from the TDA9377PS/N3/A VDP Pin.

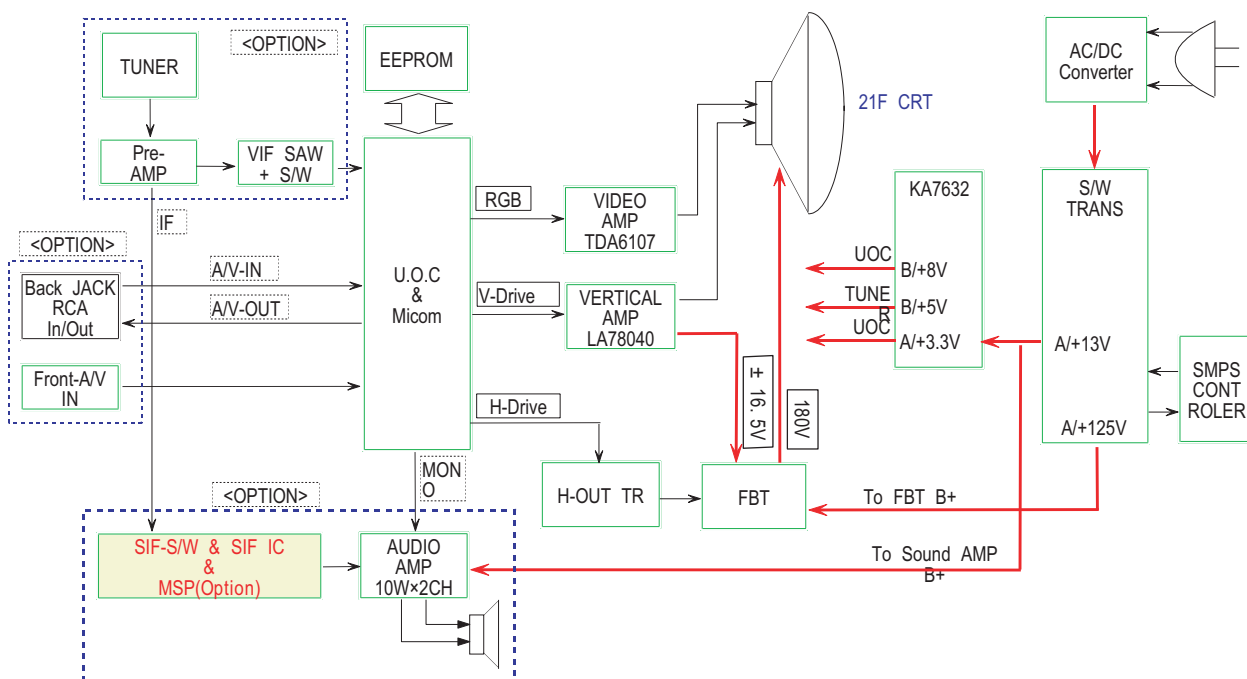
## 7. Block Diagram

### 7-1 Overall Block Diagram



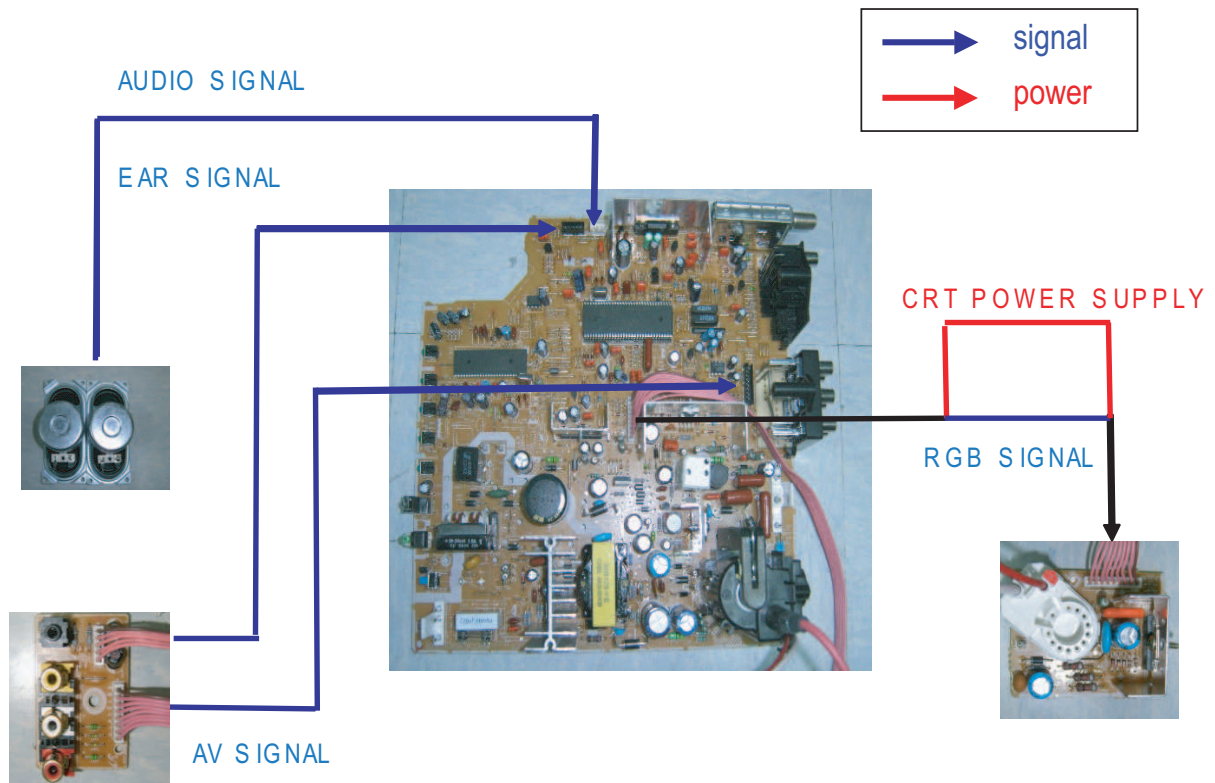
## 7-2 Partial Block Diagram

### 7-2-1 System Board Block Diagram

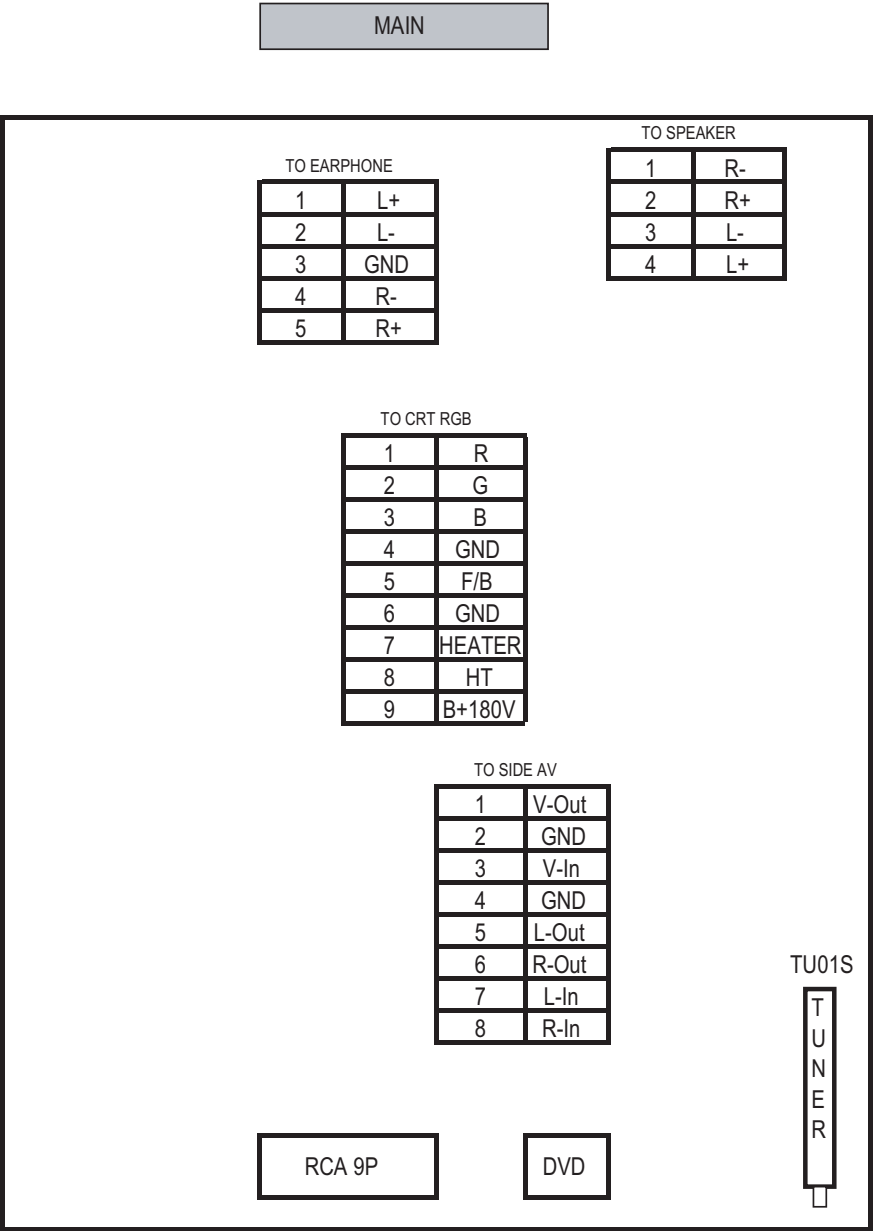


## 8. Wiring Diagram

### 8-1 Overall Wiring



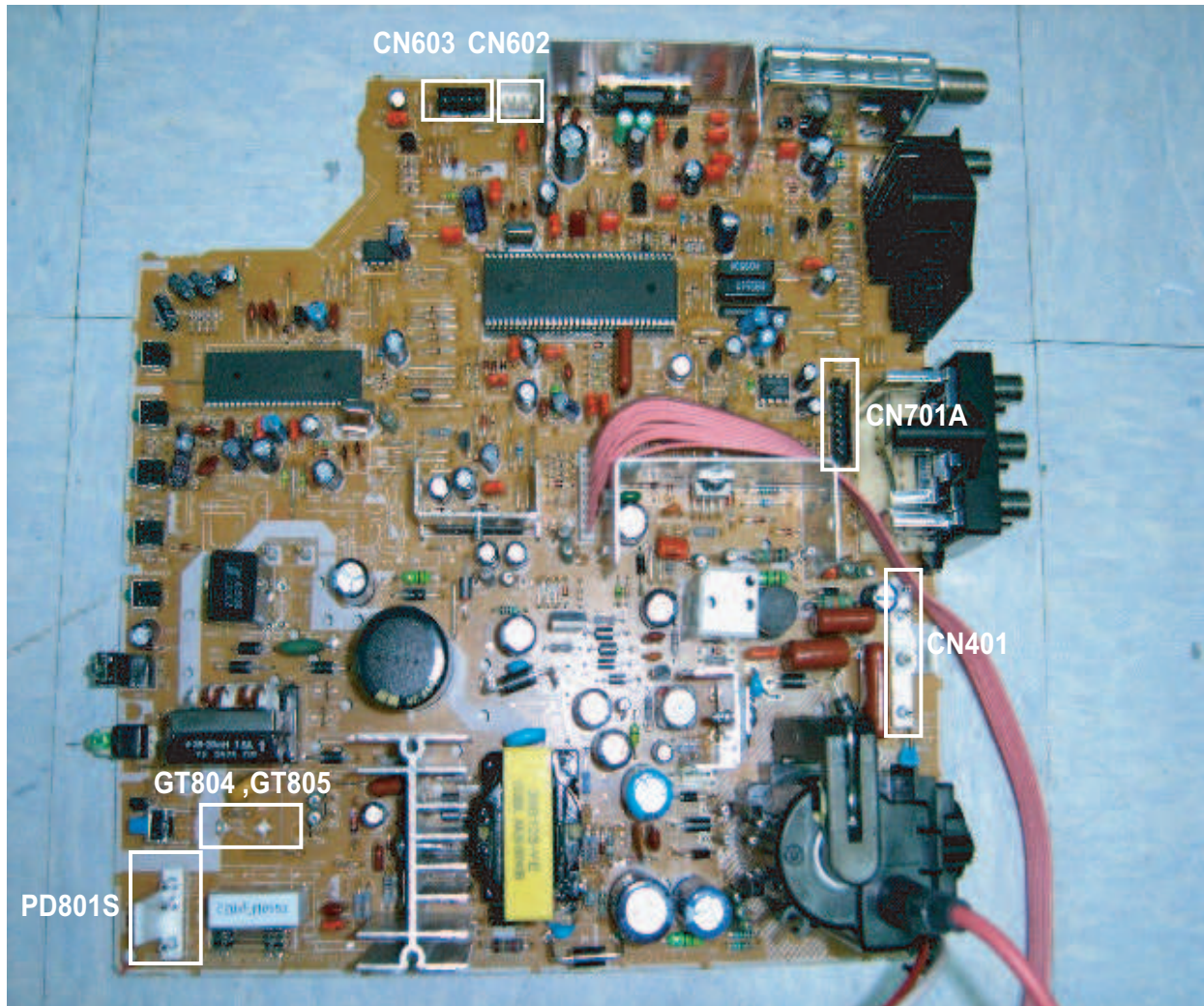
8-2 Pin Connection



## 9. PCB Diagram

### 9-1 Main Board

#### 9-1-1 Assy Main Board



#### 9-1-2 Names & Roles of Key Parts

- \* CN602 : This is a 4 pin port connected to the SPEAKER port, which delivers the signal from the AMP to the speakers.
- \* CN603 : This is a 5 pin port connected to the AV ASSY, which delivers the signal to the headphone.
- \* CN501A : This is a 9 pin port connected to the CRT ASSY, which outputs the R/G/B signal to the CRT ASS'Y for display and Power signals to the CRT DRIVE.
- \* CN701A : This is 8 pin port connected to the AV ASSY, which receives AV2 external input.
- \* CN401 : This is a 4 pin port connected to the DY, and supplies voltage for Deflection.
- \* GT804,GT805 : This is a port connected to the D-Coil surrounding the CRT.
- \* PD801S : This is a 3 pin port connected to the AC power cable. It is connected to the power cable socket.

**9-1-3 Main Board Connector Pin****CN602**

Connected to the Side Sound Port

PIN No.	Pin Name
1	R-
2	R+
3	L-
4	L+

**CN603**

Connected to the Earphone

PIN No.	Pin Name
1	L+
2	L-
3	GND
4	R-
5	R+

**CN501A**

Connected to the CRT Ass'y

PIN No.	Pin Name
1	R
2	G
3	B
4	GND
5	F/B
6	GND
7	HEATER
8	HT
9	B+180V

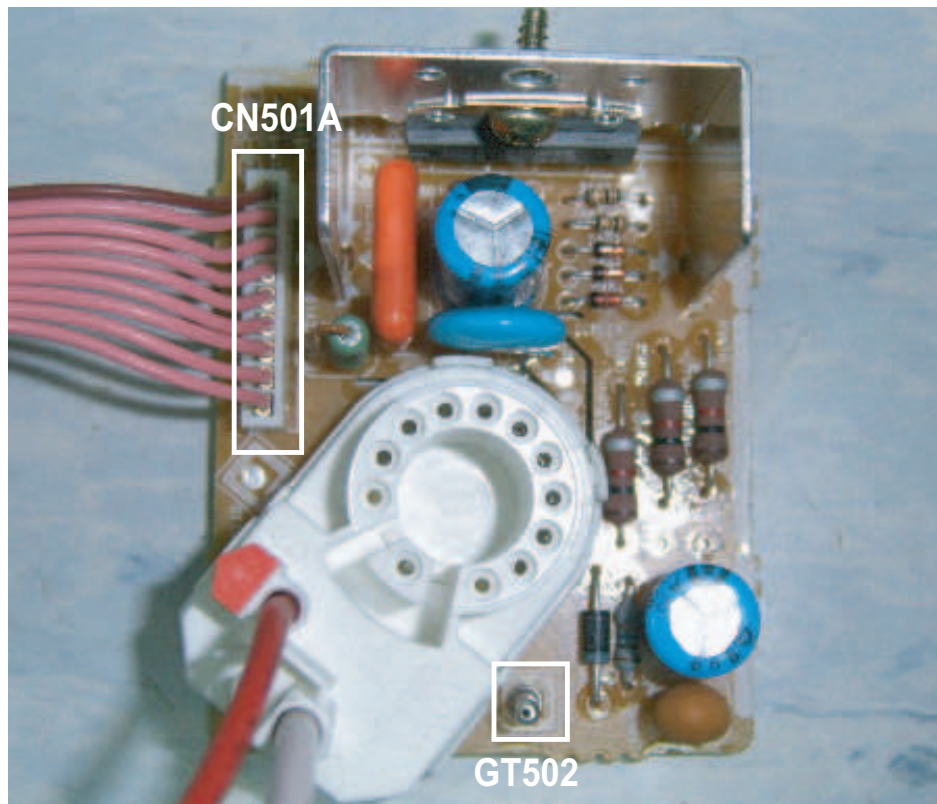
**CN701A**

Connected to the AV Ass'y

PIN No.	Pin Name
1	V-Out
2	GND
3	V-In
4	GND
5	L-Out
6	R-Out
7	L-In
8	R-In

## 9-2 CRT Board

### 9-2-1 Assy CRT Board



#### ■ CRT Drive

This supplies the final R/G/B signal from the Main Board and the CRT deflection signal to the CRT.

### 9-2-2 Names & Roles of Key Parts

\* GT502 : This is a port connected to the TBC-Wire and plays the role of CRT ground.

\* CN501A : This is a 9 pin port to receive the R/G/B output signals and power from the Main Board.

### 9-2-3 CRT Board Connector Pin

CN501A

Connects the R/G/B signal and power for the CRT

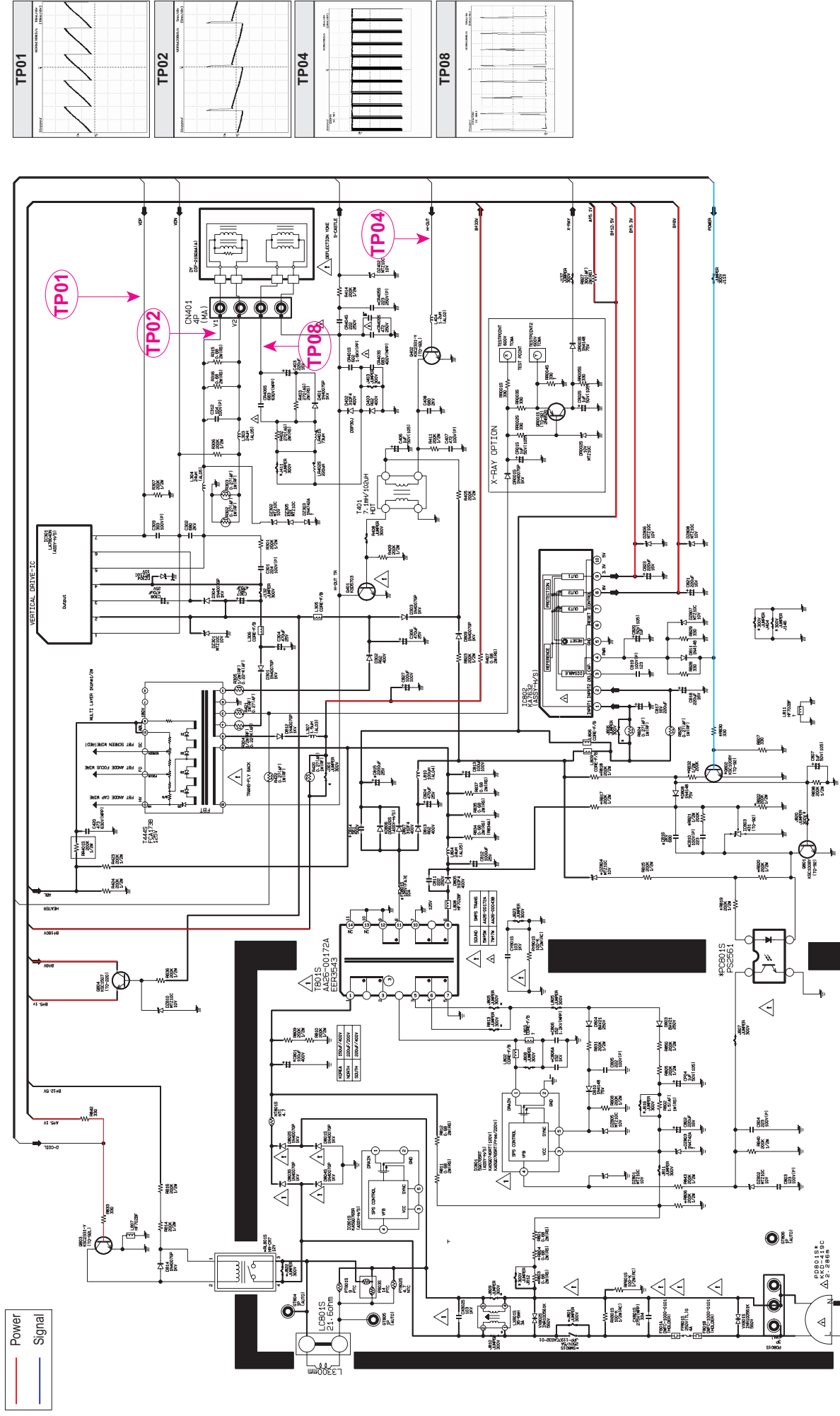
PIN No.	Pin NAME
1	R
2	G
3	B
4	GND
5	F/B
6	GND
7	HEATER
8	HT
9	B+180V

# MEMO

## 10. Schematic Diagram

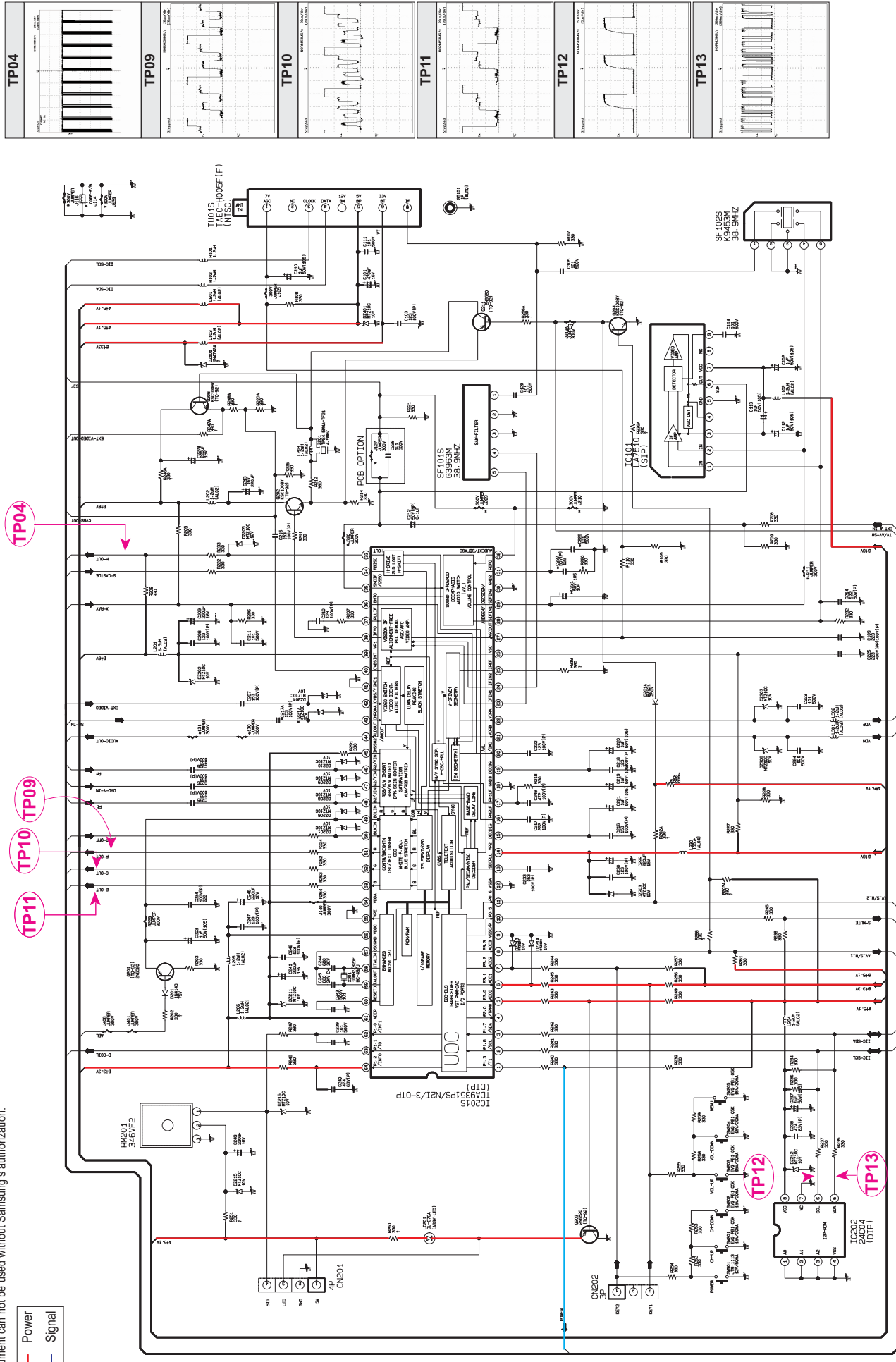
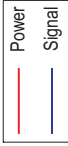
## 10-1 Power

This Document can not be used without Samsung's authorization.



## 10-2 Micom

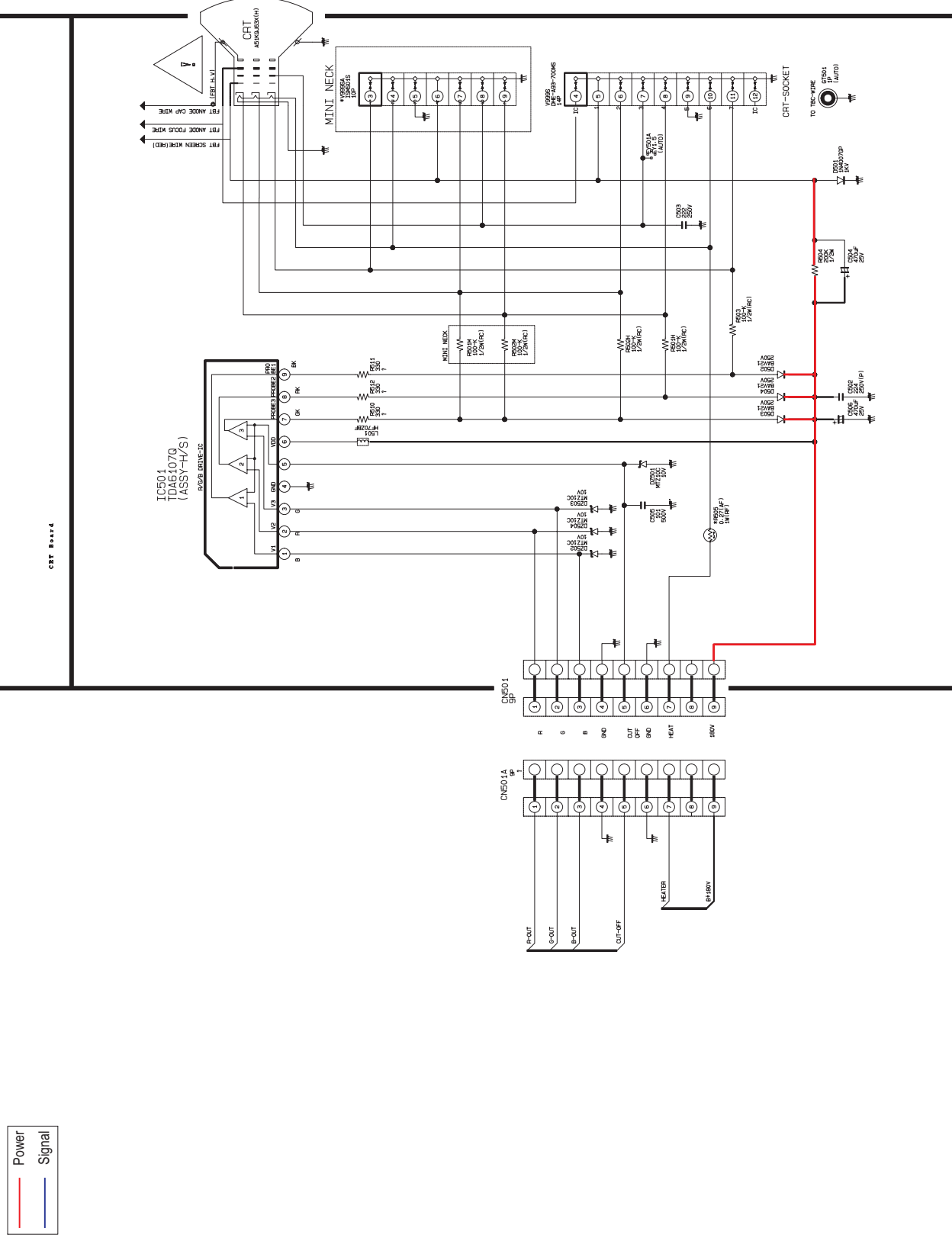
This Document can not be used without Samsung's authorization.





## 10-4 Side A/V & CRT Board

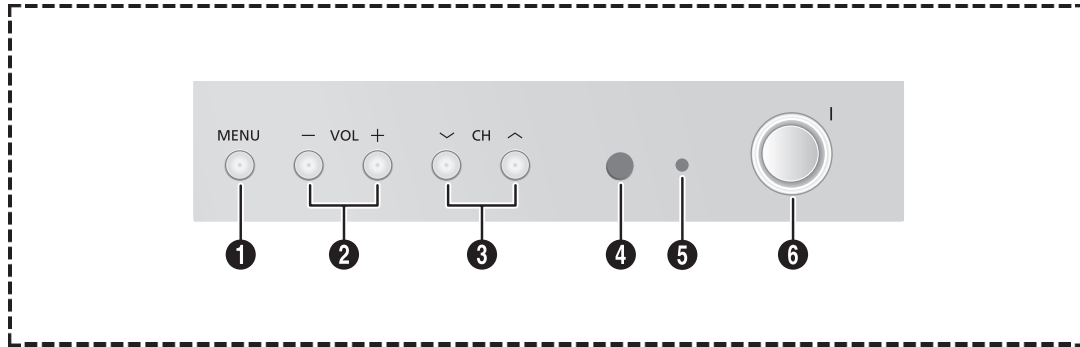
**This Document can not be used without Samsung's authorization.**



## 11. Operation Instruction & Installation

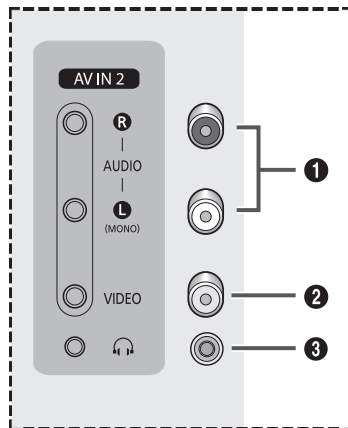
### 11-1 Product Features and Functions

#### 11-1-1 Front Panel Buttons



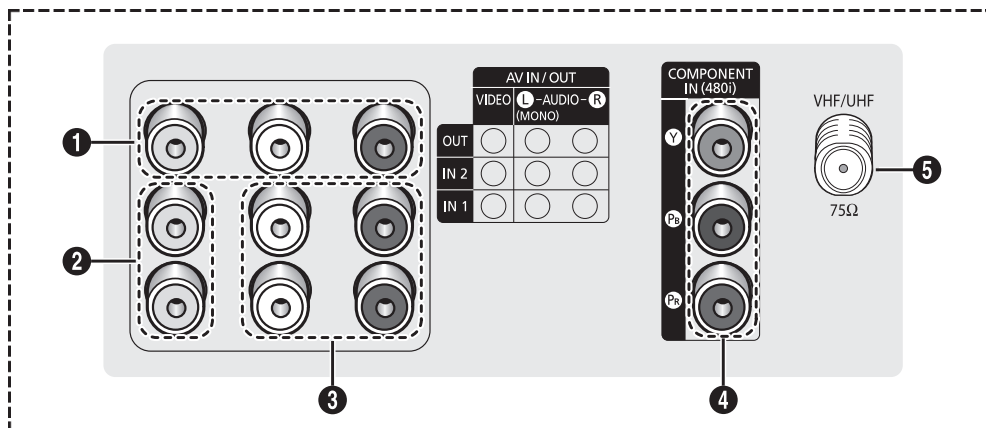
- |  |  |
|--|--|
| <p><b>1 MENU</b><br/>Press to see an on-screen menu of your TV's features.</p> <p><b>2 – VOL +</b><br/>Press to increase or decrease the volume.<br/>Also used to select items on the on-screen menu.</p> <p><b>3 ∇(▼) CH ▲(▲)</b><br/>Press to change channels. Also press to select various items on the on-screen menu.</p> | <p><b>4 Remote Control Sensor</b><br/>Aim the remote control towards this spot on the TV.</p> <p><b>5 STAND BY indicator</b><br/>Lights up when you turn the power off.</p> <p><b>6 I (POWER)</b><br/>Press to turn the TV on and off.</p> |
|--|--|

### 11-1-2 Connection Jacks (Side)



- 1 **AUDIO Input**  
Audio signals from VCRs, DVD players and similar devices.
  - 2 **VIDEO Input**  
Video signals from VCRs, DVD players and similar devices.
  - 3 **Headphone**  
Connect a set of external headphones to this jack for private listening.
- Please be sure to match the color coded input terminals and cable jacks.

### 11-1-3 Connection Jacks (Rear)



- Please be sure to match the color coded input terminals and cable jacks.

**1 Audio-Video Output jacks**

Connect to the audio/video input jacks of a recording VCR.

**2 Video Input jacks**

Connect to the video output jacks of VCRs, DVD players and similar devices.

**3 Audio Input jacks**

Connect to the audio output jacks of VCRs, DVD players and similar devices.

When using the Component Video input, connect audio jacks to "AV IN 2 (AUDIO-L/R)".

**4 Component Video Input jacks (Y, P<sub>B</sub>, P<sub>R</sub>)**

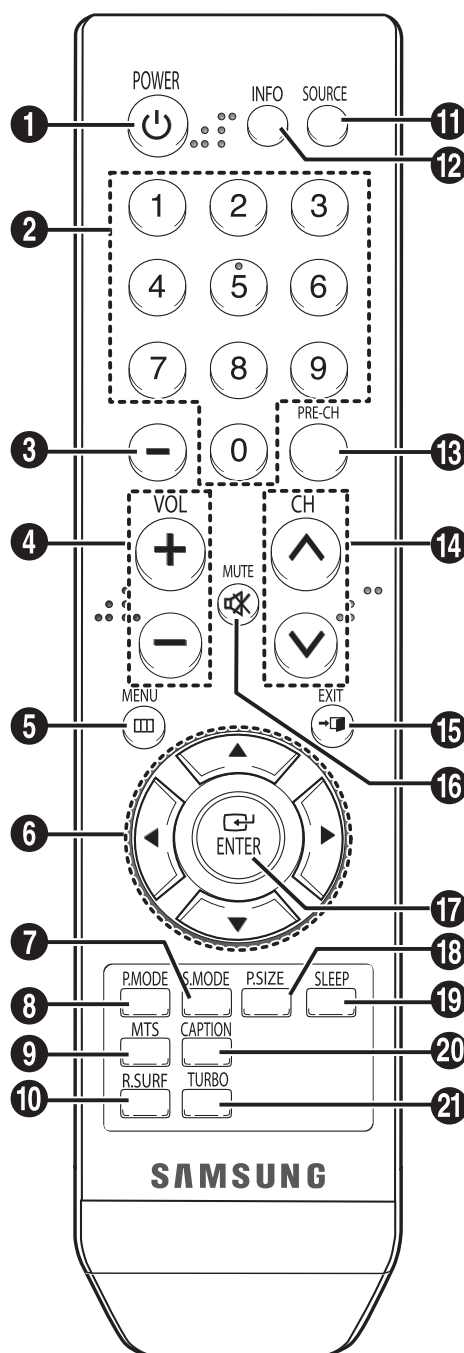
Connect to the Component audio and video outputs of a DVD or DTV set-top box. 480i video signal input is available.

**5 VHF/UHF**

Connect to an antenna or to a cable TV system.

## 11-1-4 Remote Control

- 1 **POWER**  
Turns the TV on and off.
- 2 **Number buttons**  
Press to select channels directly on the TV.
- 3 **—**  
Use to select a channel over 100, For example for channel 122, press " — ", then "2" then "2".
- 4 **VOL +, VOL -**  
Press to increase or decrease the volume.
- 5 **MENU**  
Displays the main on-screen menu.
- 6 **▲/▼/◀/▶**  
Controls the cursor in the menu.
- 7 **S.MODE**  
Adjust the TV sound by selecting one of the preset factory settings (or select your personal, customized sound settings).
- 8 **P. MODE**  
Adjust the TV picture by selecting one of the preset factory settings (or select your personal, customized picture settings).
- 9 **MTS**  
(Multi-channel Television Sound)  
Press to choose "Stereo", "Mono", or "SAP" (Secondary Audio Program).
- 0 **R.SURF**  
Press the SURF button to automatically return to a preferred channel after a user-preset time delay.

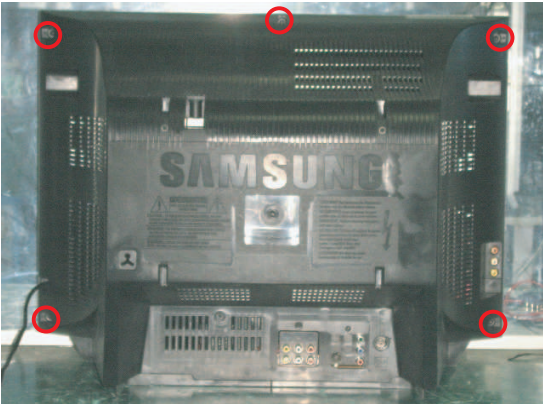


- 11 **SOURCE**  
Press to display all of the available video sources.
- 12 **INFO**  
Press to display information on the TV screen.
- 13 **PRE-CH**  
Tunes to the previous channel.
- 14 **CH ▲, CH ▼**  
Press to change channels.
- 15 **EXIT**  
Press to exit the menu.
- 16 **MUTE**  
Press to temporarily cut off the sound.
- 17 **ENTER**  
While using the on-screen menus, press the ENTER button to activate (or change) a particular item.
- 18 **P.SIZE**  
Press to change the screen size.
- 19 **SLEEP**  
Press to select a preset time interval for automatic shut off.
- 20 **CAPTION**  
Controls the caption decoder.
- 21 **TURBO**  
Press to select Turbo sound.

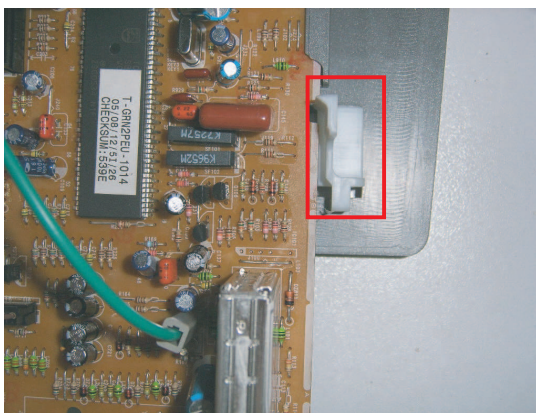
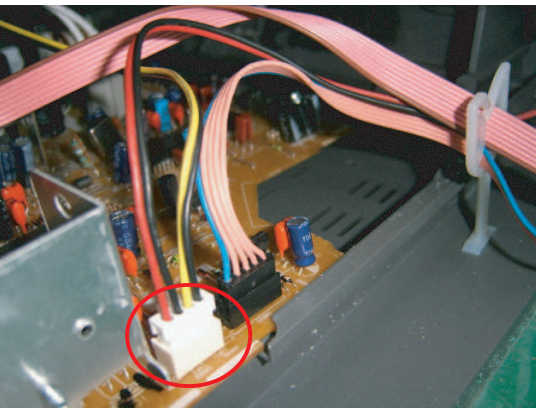
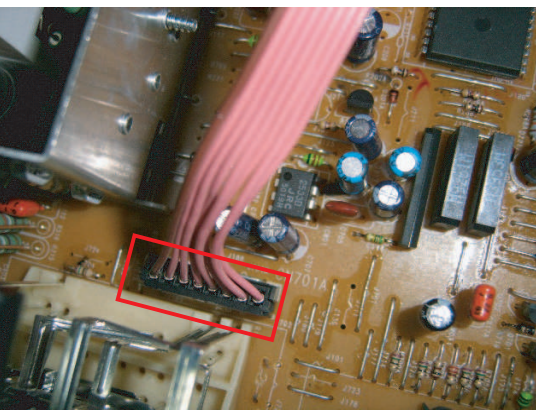
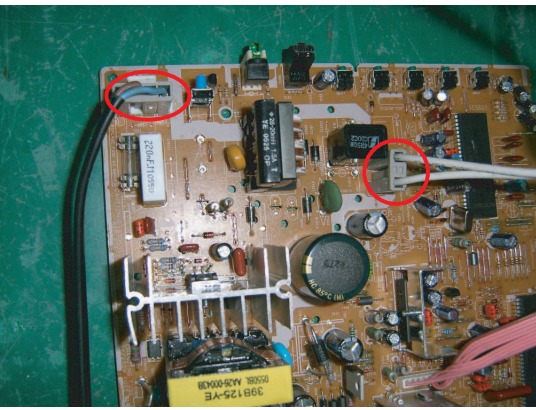
# 12. Disassembly & Reassembly

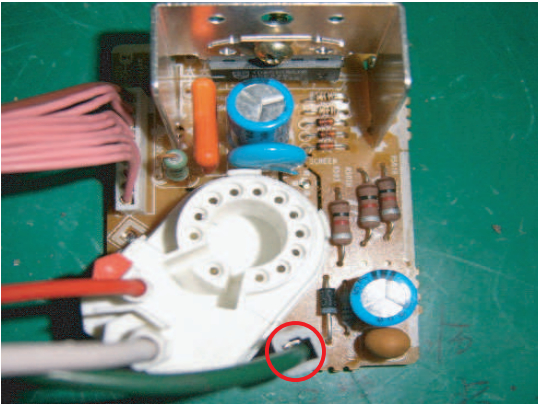
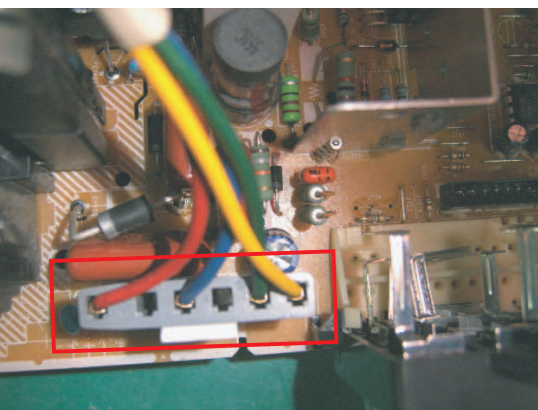
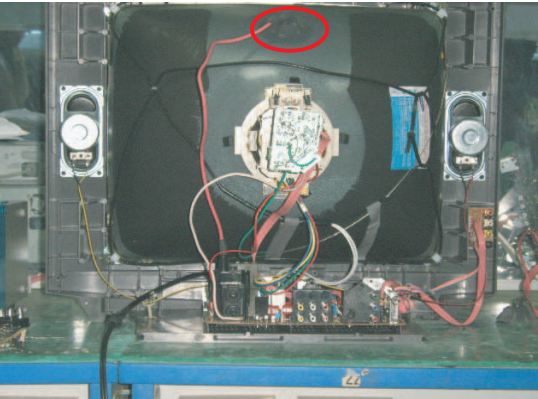
## 12-1 Overhaul Disassembly & Reassembly

### 12-1-1 Disassembling the Cabinet

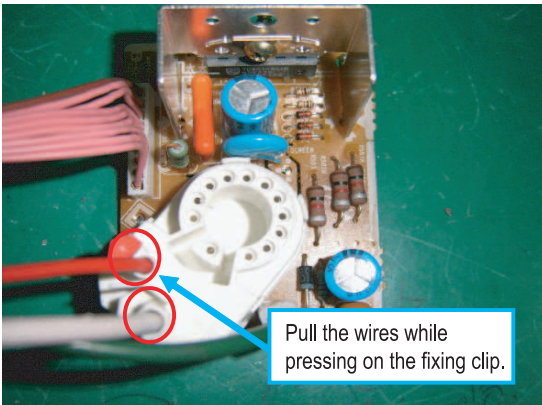
Part Name	Description	Description Photo
Back Cover	<div>① Remove the 5 screws fixing the Back Cover. : RH, +, B, M4, L15, ZPC(BLK), SWRCH18A</div> <div>② Tap the upper part of the Back Cover 2 or 3 times and pull the Back Cover to separate it from the unit.</div> <div>⚠ : Disassemble the product after disconnecting the power cord and discharge the unit to prevent an electric shock and damage to the product due to static electricity.</div>	

## 12-1-2 Disassembling the CRT and Chassis

Part Name	Description	Description Photo
Chassis Holder	<p>① Separate the Ass'y Holder chassis from the Front Cabinet.</p> <p>* push the 'Stopper-pcb' gently from left to right.</p> <p>⚠ : Pulling the Chassis Holder by force may damage "Stopper-pcb".</p>	
	<p>① Separate the Speaker and the Side earphone Wire ,from the Front Cabinet and the Main Board.</p> <p>⚠ : Since there is a clip to connect the Connector Header in the Wire Connector, pulling it by force may damage the clip or the connector. Press the clip down completely and pull the connector.</p>	
	<p>① Separate the Side AV Wire from the Front Cabinet and the Main Board.</p> <p>⚠ : Since there is a clip to connect the Connector Header in the Wire Connector, pulling it by force may damage the clip or the connector. Press the clip down completely and pull the connector.</p>	
	<p>① Separate the D-Coil and power cable from the Front Cabinet and Main Board.</p> <p>② To separate the power cord, slide the fixing clip and lift the cable up.</p>	

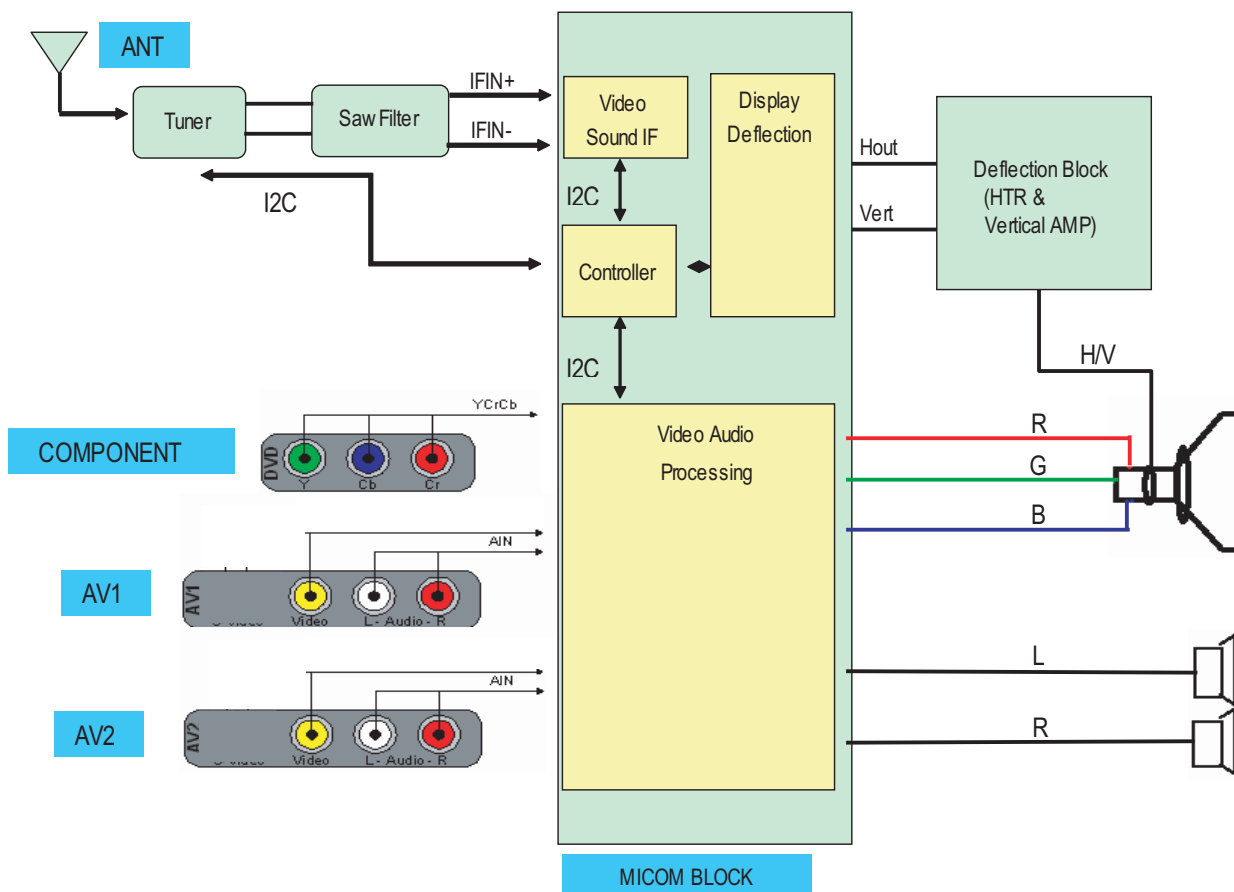
Part Name	Description	Description Photo
Chassis Holder	① Separate the CRT Ass'y from the CRT. ② Separate the TBC wire, cables from the CRT Ass'y sequentially.	
	① Separate the Deflection cable from the Main Board. ⚠ : pulling it by force may damage the Deflection cable. Press the clip down completely and pull the Deflection cable.	
	① Separate the cables connecting the FBT and the CRT. ⚠ : Since there may be a remaining high-voltage current within the CRT, take care not to touch the CRT hole with metal or a part of yourself when separating the cables.	

**12-1-3 Disassembling the CRT Ass'y**

Part Name	Description	Description Photo
CRT	<p>① Separate the wires from the FBT of the Main Board and the CRT Ass'y.</p> <p>② To separate the red wires and white wires, pull the wires while pressing the push-type clip at the connector.</p> <p>⚠ : Take care when separating the wires because pulling the wires by force may damage the socket. In addition, separate the wires on a flat and clean surface so as to prevent scratching of the material and the PCB.</p>	

## 13. Circuit Description

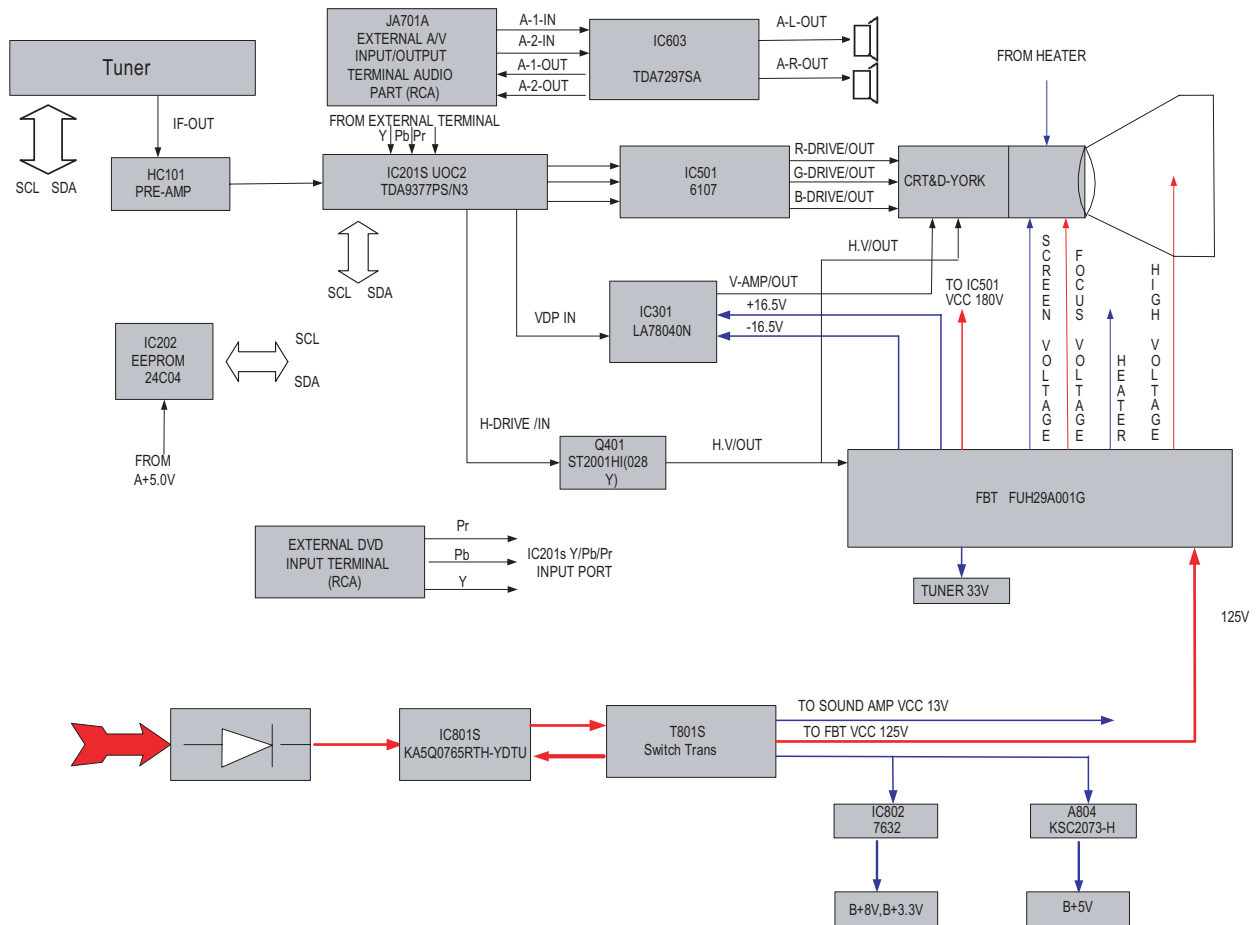
### 13-1 Overall Block Description



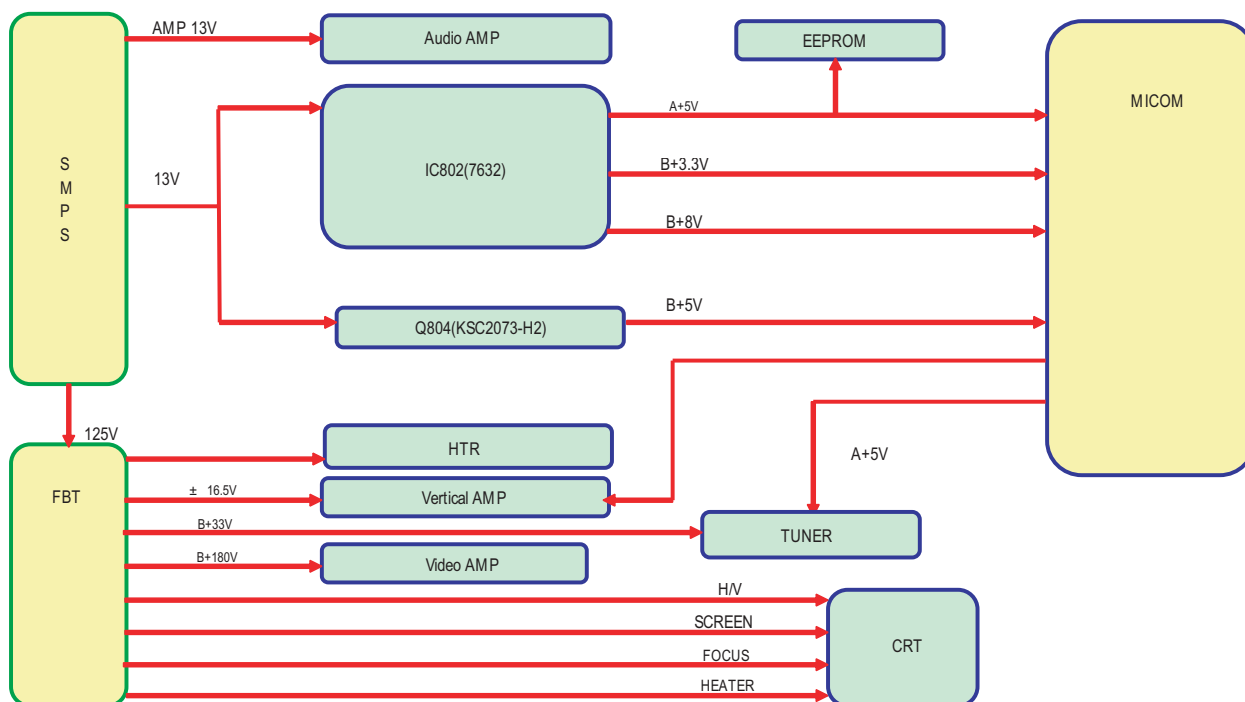
- \* This chassis is a classic direct view type TV, the Ass'y is different function parts are in one PCB.
- \* The Power Block is same as the existing model KS9A.
- \* The AV signal is input through the AV port and Side AV port of the System Block.
- \* The signals were processed by MICOM, then output.
- \* This chassis's MICOM is same as KS9A, it use UOC CHIP.
- \* The external port be consists of AV input and output, each of them has three channels, Audio are White and Red, Video is Yellow Video (Yellow).

## 13-2 Partial Block Description

### 13-2-1 System Board Block Description



- \* UOC TDA9377PS/N3/A.It contains the entire IF, audio, video, display and deflection processing for 4:3 and 16:9 50/60Hz mono and stereo TV sets. The integrated microcontroller is supported by a powerful OSD generator with integrated Teletext and CC acquisition
- \* ST2001HI: Inputted H-DRIVE signal which comes from TDA9377PS/N3/A.It amplify the H-DRIVE then output to Deflection Yoke.
- \* LA78045: Inputted VDP signal which comes from TDA9377PS/N3/A.It amplify the VDP then output to Deflection Yoke.
- \* TDA7297SA:It is a dual channel audio amplifier.The two audio signals L and R input to it and are amplified, then output to speaker.
- \* 6107:It includes three video output amplifiers and is intended to drive the three cathodes of a color CRT directly. The output R,G,B signals will connect to the CRT socket pins directly.
- \* EEPROM: As a extended ROM of TVT. It contains some data which is used to program executing.
- \* KA5Q0765RTH:SMPS control HIC. Provide switching signal in order to control the trans working.
- \* TDQ-6F/13F2S(TUNER):Receives the RF signal and output a fixed IF to Micom.
- \* Micom Block consists of five aspects as: Video & Sound IF Processor, Video Processor, Display and Deflection Processor and Controller, OSD,Text Processing.
- \* TUNER-F/S;TDQ-6F/13F2S(tuner) : RF signal processing , Output IF signal

**13-2-2 Power Block**

### 13-2-3 IC Line Up

#### ■ Main Board

Items	Descriptions	Remarks
MICOM	TDA9377PS/N3/A, T-FMTNUS	
Tuner	TDA9377PS/N3/A	
Trans Switching	TRANS SWITCHING,; CS21S5T, 80~280V, PM2, PL3	
SMPS	KA5Q0765RTH-YDTU	
Vertical DEF.	LA78040N	
Horizontal DEF.	ST2001HI(028Y)	
SOUND AMP	TDA7297SA, SGS-TOMSON	10W+10W
EEPROM	24C161, SAMSUNG	
VIDEO AMP	TDA6109JF, Philips	
Regulator	IC-MULTI REG.; 7632, SIP, 10P, -, PLASTIC, 3.3	A+5V, B+3.3V, B+8V Regulator

## 14. Reference Information

### 14-1 Other issues related to other products

Problem	Descriptions
A fixed screen can cause permanent damage to the TV Braun tube.	Braun, PDP and LCD TVs can all be damaged. When a still image is displayed in a sequence, this can leave stains or after-images due to the characteristics of the panel. However, the DLP TV has the advantage that no stains or after-images are left on the screen. The DLP TV has mirror pixels on the DMD panel that project the beam onto the screen, in which the mirror is a digital representation of 0s and 1s, leaving no trace of light. The mirror returns to a blank state so that no stains or after-images are left.
Confusion between the ANYNET Port and the SERVICE Jack Port (KOREA Only)	The SAMSUNG SKY500N model has both an ANYNET port and a SERVICE jack port. Because the shape of the ANYNET port on the DLP TV is the same as that of the SERVICE jack port of the SKY500N, it fails to turn the TV off after a connection has been reported. The ANYNET port uses an RS232 port called Phone Jack, and the SERVICE jack port also uses the RS232 port. However, you must not connect the SERVICE port and the ANYNET port. Check if the port is the ANYNET port or the SERVICE port before connecting the port. Even if the TV cannot be turned on after connecting, the TV will turn on if you disconnect the connection.
Length of DVI Cable / PC RGB Cable	- A too long DVI cable may cause a malfunction or degradation of the visual quality due to an attenuation of the signal. There is no recommendation for the cable length at present. In general, although a cable length of up to 5 meters should work, please check if video is properly displayed on the screen after connecting. If you think the length of the cable is longer than for normal use, check the visual quality of the video on the screen and shorten the length, if necessary. - This also applies to the PC RGB (D-Sub) cable. When the length of the cable is longer than for normal use, video may not be displayed on the screen. In this case, shorten the cable length.
When a digitally distributed TV user receives HD-rated broadcasts:	The digital distributed TV (Ready Technique) can render HD sources as HD-rated. However, you need to install a set-top box for this purpose. The digital TV alone cannot render HD broadcasting as HD-rated. Install the formal set-top box for HD broadcasts.
When a digital distributed TV user selects normal size (4:3) to receive SD-rated digital broadcasts:	The digitally distributed TV (Ready Technique) renders any broadcasting service as SD-rated. However, when connected to a set-top box, the digital TV renders HD broadcasts as HD-rated and renders SD as SD-rated. The screen size is scaled to 4:3.
When a digitally built-in TV user receives SD (air) broadcasting:	The digitally integrated TV ("built-in" type) renders SD broadcasting as SD-rated. This can be understood easily. Even a high-resolution TV cannot improve a low resolution picture into high quality. In contrast, an SD-rated TV cannot represent HD broadcasting as HD because the resolution of the TV is lower than the original.
When selecting a picture size of 4:3 in connection with a computer or a multimedia device:	The representation capability of SD or HD-rated depend entirely on the TV set. The HD TV can render HD broadcasting as HD-rated only when it receives HD sources. In the meantime, the HD TV renders SD as SD-rated when it receives SD sources. The picture size has nothing to do with the resolution; TV models like SVP-XXL3HD or SVP-XXL6HD have a size adjustment feature to 16:9, 4:3, Panorama, Zoom1, Zoom2 and Auto Wide. This is about the aspect ratio of the top and bottom boundaries to the overall screen and users can select their preference.

## ■ SD/HD broadcasts and the TV's display capability are related

1. A digital broadcast should be transmitted in wide screen (an aspect ratio of 16:9) HD. If the broadcasting station converts a conventional program created in normal screen (aspect ratio of 4:3) into a digital signal and broadcasts the signal, the left and right of the picture will not be displayed.

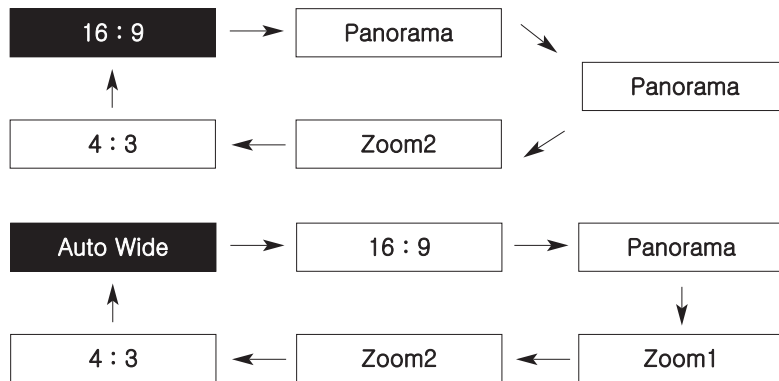
This symptom also appears in other manufacturer's TV's. The three appliance companies are trying to resolve the problem through the Ministry of Information and Communication.

- \* When watching an SD (normal) broadcast through a Digital (Wide) TV (480P normal broadcast)
- \* When watching an SD (normal) broadcast through a Digital Ready (Wide) TV (Using a set-top-box)
- \* When watching an analog (normal) broadcast through a wide TV  
(When watching a broadcast after changing the aspect ratio of the TV from 16:9 (wide screen) to 4:3)

2. When watching a DVD title or video tape in wide screen (21:9) through a wide (16:9) TV, watching video from a computer or game console by selecting the aspect ratio to 4:3, or watching video from a DVD, VCR, computer or game console through a wide TV by selecting the aspect ratio to normal (4:3) or wide (21:9), the left and right, or top and bottom of the picture will not be displayed.

This symptom appears in other manufacturer's TV's. The three appliance companies are trying to resolve the problem through the Ministry of Information and Communication.

## ■ Changing the Order of the Picture Size for 16:9 Display Devices



## ■ Changing the Order of the Picture Size for DTV 1080i/720p Sources



## ■ Restrictions

1. When you want to change the picture size in PIP 'ON', you must turn the PIP off before changing the size.  
However, you can change the main picture size even in PIP ON for products with no restrictions.
2. When the picture size is not Normal (4:3 for 4:3 display devices, 16:9 for 16:9 display devices) and you turn PIP on, the picture size is changed to Normal.  
However, you can turn PIP on without changing the picture size for products with no restrictions.
3. In the OSD notation for the picture size, 16:9 is represented as "Wide" instead of "16:9" for devices other than with 16:9 displays.  
Ex: For LCD 15:9 devices, "Wide" is displayed on the OSD instead of "16:9".
4. The picture size can be changed even in the blue screen.  
However, the picture size should be controlled by the product specifications if the change is impossible due to hardware restrictions.

## 14-2 Technical Terms

---

### Digital Broadcast

Digital Broadcast is a television broadcasting signal digitized and transmitted according to the United States' terrestrial digital broadcast standard, or ATSC.

### Mono

A type of audio interface that transmits audio signals through a single channel.

Through a mono interface, it is hard to experience stereophonic sound and sound is played only by one speaker.

### Reception Sensitivity Amplification

A signal amplification technique that amplifies weak broadcasting signals by applying satellite technology to provide a better visual quality even for users in regions where only weak broadcasting signals are available.

### Stereo

A type of audio interface that transmits audio signals through 2 channels.

Stereo transmits audio signals for the right and left channels so that you can experience stereophonic sound, and the sound is played with 2 speakers.

### Analog Broadcast

Analog Broadcast is a television broadcasting signal transmitted according to the NTSC standard.

### ANTENNA IN Port

A port to connect the TV aerial using a coaxial cable. It is generally used to watch public broadcast programs.

### English Caption

A function that shows English caption or text information included in the broadcasting signal or video tape. You can use this function to study English by watching AFKN or CC marked video tapes.

### Video/Audio Ports

You may experience poor visual and audio quality when watching a video tape on channel 3 or 4 through the antenna cable. You can experience better visual and audio quality connecting the TV and VCR through the Video/Audio ports. The video port is distinguished by the color yellow, and the audio ports are distinguished by the white (left) and red colors (right).

### External Input

External Input is connecting video devices such as a VCR, camcorder, DTV receiver, DVD, etc. as a video source.

### Satellite Broadcast

Satellite Broadcast transmits programs via satellite so that the broadcast is viable in all areas at a high visual and sound quality. It provides approximately 100 channels including public broadcast channels. To view satellite broadcast, you have to install an additional receiver.

### Wired Broadcast

Satellite Broadcast refers to movie, entertainment and educational programs transmitted by the broadcasting station in a hotel or school.

### Audio Multimax

Audio Multimax provides 2 languages for audio when broadcasting a foreign movie, drama, news, etc. You can select and listen to one of the supported languages or you can select and listen to both languages simultaneously.

### Component Port (Green, Blue, Red)

The Component Port separately transmits the luminance signal and provides the best quality of all video connection types.

### Cable Broadcast

Cable Broadcast transmits programs via cable instead of radio wave. To view a cable broadcast, you need to subscribe to your local cable broadcast service provider and install an additional receiver.

### Tuner

A device that enables selecting a specific frequency for a channel on a TV or radio.

### DVD (Digital Versatile Disc)

DVD is a large capacity media that can save multimedia content such as video, game, audio applications, etc. using MPEG-2 video compression technology on a CD-sized disc.

### S-VIDEO IN Port

This is called super video. S-Video is a type of video signal which has the video luminance and color signals separated in order to provide a better visual quality.

### VHF/UHF

VHF refers to TV channels 2 to 13, and UHF refers to TV channels 14 to 69.

# MEMO